

Sinclair Programs

Quasimodo
Laser Bikes

Jet Boat
Space War

Screen
Flash

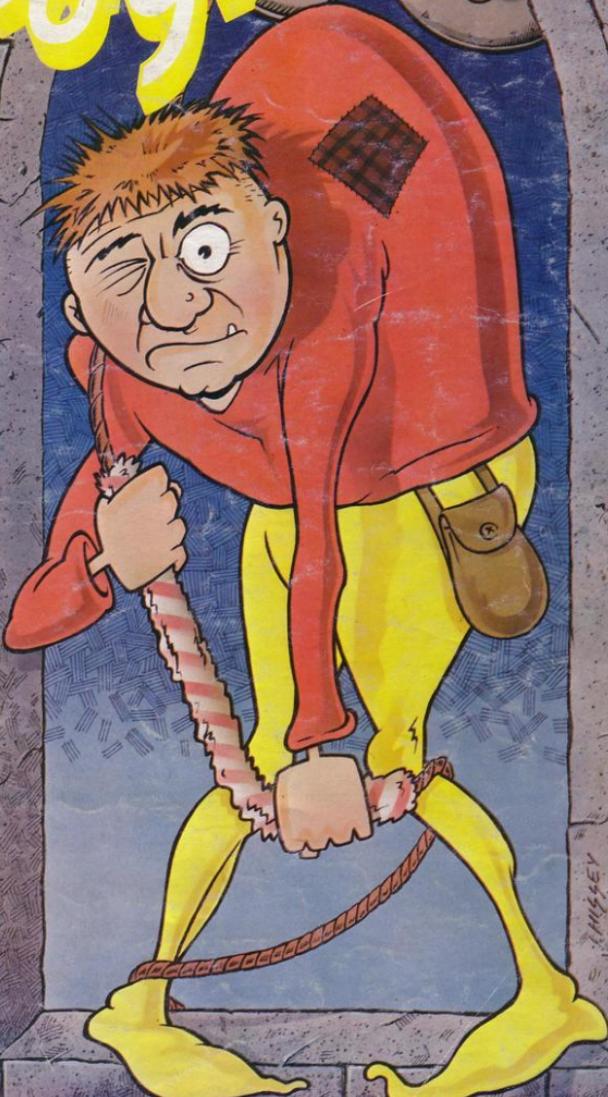
Hurkle

Chord
Master

Silly Moo

Malom

30 Programs for
the Spectrum,
ZX80 and
ZX81



SPOT THE DIFFERENCE!

Choosing which game to buy from the mountain available is a difficult job, especially when everyone claims to produce the best on the market. But how can you tell the best from the rest? To help you decide, read on. . . .



What the real critics say. . . .

Very rarely have software titles produced such universal acclaim as 'Halls of the Things' and 'The Dungeon Master'. Now, with three brand new programs, Crystal continues to set the standard of software excellence. The difference is obvious - the choice is yours:

The Best or The Rest.

THE DUNGEON MASTER

Let your Spectrum be your guide in a totally new dimension in adventures in the true spirit of traditional role playing games where YOU design the scenario.

"I have been a Dungeons and Dragons fan for several years...The package provides excellent entertainment for all fans of the cults and should prove a good introduction to the game."

"Highly recommended for its versatility, originality and quality. Definitely well worth obtaining".

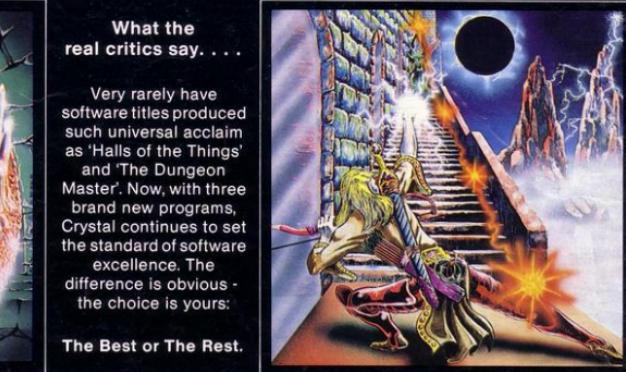
— Sinclair User.

— ZX Computing.

ZX Spectrum 48K

£7.50

Written by Graham Stafford.



HALLS OF THE THINGS

A stunning multi-level maze 'arcade' adventure. "Excellent and dangerously addictive - could change the Spectrum games scene overnight".

"Spectacular - One of the best games I've seen, finely balanced between simplicity and addictiveness - superb graphics and colour - I CAN'T RECOMMEND IT HIGHLY ENOUGH".

— Popular Computing Weekly.

ZX Spectrum 48K

£7.50

Written by Neil Mottershead, Simon Brattel and Martin Horsley.



THE ISLAND

The ultimate test of logic and deduction! Can you solve the hidden mysteries of the South Pacific Island on which you have been stranded - and escape alive! A brilliant classic style adventure game to fascinate and frustrate you for months!

ZX Spectrum 48K

£7.50

Written by Martin H. Smith.



Please Supply:

Invasion of the Body Snatchas
Rommel's Revenge
The Island
Halls of the Things
The Dungeon Master
Catalogue (please enclose SAE 6in. x 9in.)

I enclose cheque/PO for

NAME

ADDRESS



ROMMEL'S REVENGE

A brilliant interpretation of the most visually stunning arcade game of all time. Superb high resolution 3D graphics with full perspective plus a host of new and exciting features make Rommel's Revenge the most spectacular game ever produced for your Spectrum!

ZX Spectrum 48K

£6.50

Written by Martin Horsley.

INVASION OF THE BODY SNATCHAS!

At last! A version as fast and furious and as frustratingly addictive as the arcade original. Landers, Mutants, Bombers, Pods, Swarmers and much much more combine to produce the ultimate space game!

ZX Spectrum 48K

£6.50

Written by Simon Brattel and Neil Mottershead.

Please send SAE for our latest catalogue and details of our forthcoming software.

Catalogue FREE with every order. P&P included.

Please add £0.50 per item for overseas orders.

Please make cheques/PO's payable to:

CRYSTAL COMPUTING

Dept SU11

2 ASHTON WAY

EAST HERRINGTON

SUNDERLAND SR3 3RX

DEALERS! For details of our excellent dealer discounts (including export) ring Chris Clarke on 061-205 6603.

PROGRAMMERS! Write to us for evaluation and details of our excellent royalty scheme.

Contents

Managing editor
Nigel Clark

Managing production editor
Harold Mayes MBE

Design
Elaine Bishop

Program Reviews
Rebecca Ferguson

Group advertisement manager
John Ross

Advertisement executive
Frank Humphrey-Gaskin

Editorial/production assistant
Dezi Epaminondos

Managing director
Terry Cartwright

Chairman
Richard Hease

Sinclair Programs is published
monthly by ECC Publications Ltd.

Telephone
All departments
01-359 3525

If you would like to contribute to any of the Sinclair User group of publications please send programs, articles or ideas for hardware projects to:
Sinclair User and Programs,
ECC Publications,
196-200 Balls Pond Road,
London N1 4AQ

Programs should be on cassette and articles should be typed. We cannot undertake to return them unless a stamped-addressed envelope is included.

We pay £10 for the copyright of each program published and £50 per 1,000 words for each article used.

© Copyright 1983

Sinclair Programs

ISSN No 0263-0265

Printed and typeset by

Cradley Print PLC,

Warley,

West Midlands

Distributed by

Spotlight Magazine Distribution Ltd,

1 Benwell Road,

Holloway,

London N7

01-607 6411

Cover Design/Illustrations

Ivan Hissey

7 ERRORS AND MISHAPS LETTERS

26 TRICKSTICK COMPETITION

BEGINNERS' SECTION

ZX-80

14 BARON HURKLE

SPECTRUM

15 ANIMATION MIRROR PATTERNS

ZX-81

16 SEQUENCE AIR SEA LANDER

10 DONKEY DIAMOND

18 QUEST

21 SHARP SHOOTER

24 CONSTELLATIONS

34 FOUR-WAY SPLIT

31 PROGRAM OF THE MONTH HAUNTED DUNGEON

35 SPACE WAR

40 CHORD MASTER

46 JET BOAT

47 SNAIL TRAIL

50 HEAT LOSS CALCULATION

51 SILLY MOO

52 PETROL CONSUMPTION

54 TWO-STROKE ENGINE

SPECTRUM

8 LASERBIKES

11 COLOURING

19 QUASIMODO

25 ESCAPE FROM TIME

36 ASTEROIDS

43 SCREEN FLASH

44 3D CHARACTERS MIRROR CHARACTERS

55 CONTOUR

58 SLALOM

Instructions for graphics characters are printed in lower-case letters in our listings. They are enclosed by brackets and separated by colons to distinguish them and the brackets and colons should not be entered.

Inverse characters are represented by the letter "i" and graphics characters by "g". Thus an inverse W would be represented by "iw", a graphics W by "gw", and an inverse graphics W by "igw".

Spaces are represented by "sp", and inverse spaces by "isp". Whenever any character is to be used more than once, the number of times it is to be used is shown before it, together with a multiplication sign. Thus "6*isp" means six inverse spaces and "(g4:g4:g4:g3)" would be entered as a graphic four, followed by an inverse four repeated four times, followed by a graphic three.

Where whole words are to be written in inverse letters they appear in the listings as lower-case letters. Letters to be entered in graphics mode on the Spectrum are underlined.

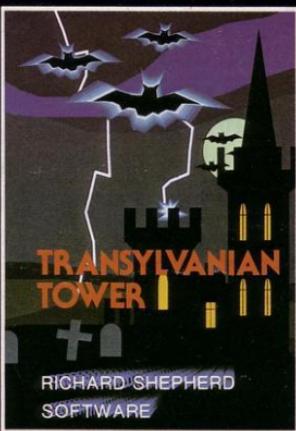
Inverse characters may be entered on the ZX-81 by changing to graphics mode and then typing the appropriate characters and on the Spectrum by changing to inverse video and typing the appropriate letters. Graphics characters may be entered on the ZX-81 by changing to graphics mode and then pressing symbol shift while the appropriate characters are entered. On the Spectrum graphics characters may be obtained by changing to graphics mode and then pressing the appropriate character. User-defined graphics will appear as normal letters until the program has been RUN.

"ADVENTURES IN"

AVAILABLE FROM W.H. SMITH
AND ALL LEADING

Transylvanian Tower

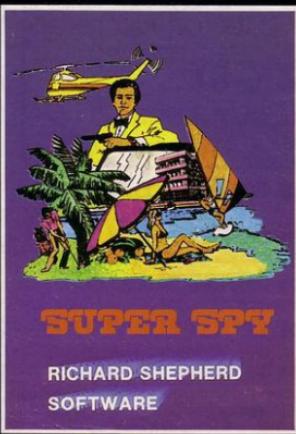
A spine chilling adventure... enter via the dungeons... navigate your way through 500 3-D rooms... survive the swooping vampire bats... reach the terrifying top... confront and kill Count Kreepie, ridding the world of this Transylvanian Terror. Can you survive the Top of the Tower? Full save routine for use during the hours of darkness! 48K Spectrum £6.50



Super Spy

Locate the secret island hideaway of the mysterious megalomaniac Dr. Death. Follow his trail across continents, through complex puzzles and 3-D mazes. Discover the entrance to his underground lair — but beware — even with your death-defying gadgets his evil henchmen may still win the day!

With save routine for part time secret agents! 48K Spectrum £6.50



Devils of the

Can you discover the fabled treasures by lethal crabs and menacing elven secrets of the Lost City as you walk ancient columns. Explore the hidden treasures, the treacherous seabed, each with dangers.

Sensational 3-D graphics used as before! 48 K Spectrum £6.50. Full

**RICHARD SHEPHERD
SOFTWARE**

DEALERS — GENEROUS DISCOUNTS AVAILABLE CONT

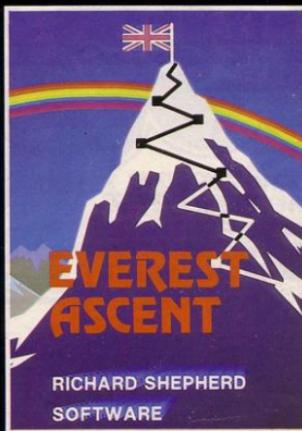
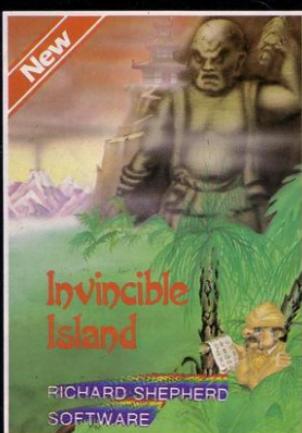
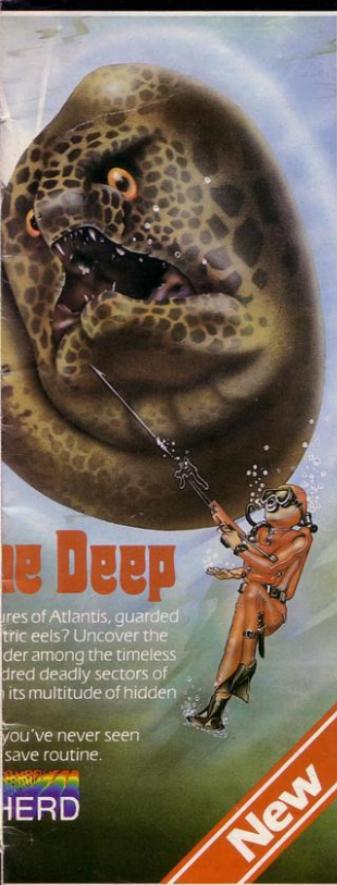
RICHARD SHEPHERD SOFTWARE

ELM HOUSE, 23-25 ELMSHOTT LANE, CIPPELHAM, SLOUGH, BERKSHIRE.

CREDIT CARD
RING 1062
FOR EXPRES

TO IMAGINATION"

TH, JOHN MENZIES, BOOTS*
COMPUTER STORES



CONTACT JOHN SALTHOUSE ON (06286) 63531 FOR DETAILS

D HOTLINE
86) 63531
SS SERVICE

RICHARD SHEPHERD SOFTWARE

ELM HOUSE, 23-25 ELMSHOTT LANE, CIPENHAM, SLough, BERKSHIRE.

Invincible Island by Peter Cooke

Exhaust your ingenuity in the quest to find The Seven Parchments of Xaro and their meaning! Will they lead you to undreamt of treasures or eternal doom? Explore the mysteries of the stockade and puzzle within the Pagoda! A spectacular split screen graphic and text adventure to baffle you for weeks!

Adventurous graphics for every location. Save routine. 48K Spectrum £6.50.

Everest Ascent

Stake your claim to the top of the world in this strategic vertical adventure. Conquer the summit of the world's highest peak! . . . struggle from base camp to base camp . . . survive the elements . . . watch out for avalanches, thin ice and wayward sherpas . . . encounter abominable snowmen and cross bottomless crevasses! A game of skill, strategy and planning — a graphic simulation of man's ultimate endeavour! Save routine. 48K Spectrum £6.50.

THE FABULOUS CASSETTE

50

FROM cascade

50 GAMES ON ONE GREAT CASSETTE

ONLY
£9.95

DON'T MISS THIS
INCREDIBLE OFFER

50 FANTASTIC
GAMES ON
ONE CASSETTE

ONLY £9.95 (INC. P&P and VAT)



EXPRESS DELIVERY - ORDER NOW

Please send me by return of post, Cassette 50 at £9.95 per tape. I enclose a cheque/postal order for £_____ made payable to Cascade Games.

Name _____

Address _____

Post Code _____

Country _____

Dealers & Stockists enquiries welcome.

Please send me (tick appropriate box)

Spectrum VIC



Cascade Games,
Suite 4, 1-3 Haywra Crescent,
Harrogate, N. Yorkshire, HG1 5BG,
England.

Telephone: (0423) 504526

SP 11/83

LETTERS

RECENTLY I bought a Spectrum and the September issue of *Sinclair Programs*. I typed-in the program **Shoot-out** and found that, although no error codes were produced, my cowboys refused to move when the correct keys were pressed. I then entered **Kami**. Once again I entered the program correctly and my aeroplane refused to move.

Thoroughly confused, I recorded the programs and took them to a friend who has had a Spectrum for some time. We played the recordings into her computer and both programs worked properly. Does that mean I have a faulty machine?

Allison Fern,
Tottenham, London.

• Your computer is not faulty. It is one of the new model three Spectrums which have been issued since our September issue was published. Owners of model three Spectrum have experienced difficulty LOADING commercial software and entering program listings containing IN statements.

A model three Spectrum will print 191 in response to the direct command PRINT IN 16602, while a model one or two will respond with 255.

Owners of model three Spectrums should check all programs they ENTER for IN statements. IN statements are always followed by a five-digit number and then by the numbers 255, 254 or 253. In all cases 255 should be changed to 191, 254 to 190, and 253 to 189.

SAVE MEMORY

IN RESPONSE to the letter from Mark Willis in the August issue, I felt that I had to tell you that the numbers take up more memory than almost anything else you could want to use in a program, so the use of PI/PI instead of I saves between four and six bytes, which is invaluable when using a 1K ZX-81. Also using VAL "50" saves about four to six bytes.

I am a Spectrum owner. I had a ZX-81 previously. I think the best program you have published is the **Worm**.

Game, on which my high score is 262,400. **Protector**, **Tank Duel** and **Mapwork** are also excellent.

Since you started publishing 30 programs in each issue I have enjoyed the magazine immensely, the quality of the 16K Spectrum programs becoming extremely high. The brilliant artwork, inside and out, makes the magazine seem more friendly. Every time I look at the picture accompanying the program **Periscope** in the August issue I am nudged into fits of laughter.

To re-set RAM on the Spectrum, type-in RAN-DOMIZE USR 0. That also destroys UDGs and any alternative character sets you have defined.

Can anybody tell me what the report code '5 M 0:1' means? It is the response I receive when I type RAN-DOMIZE USR 10.

P Williamson, age 14,
Hull.

GOLF 81

JUST HAVING become the owner of a 16K ZX-81 computer I am feeling very satis-

fied with *Sinclair Programs*, which I buy as soon as it is published. There is a large selection of programs for both the 1K and the 16K ZX-81 machines which involve detailed listings and graphics. The games printed in this value-packed magazine are exciting and easy to type-in, which helps beginners a great deal in our early days of keying-in words and graphic instructions.

I have found the best game to be **Golf 81** and even though I have no experience of golf, I soon mastered the game.

I have just one complaint about this excellent magazine and that is the order in which programs are placed. I have to spend time turning all the pages to find the selected pages of programs to fit my computer. Instead could you not have the first few pages for the 1K computer then the 16K computer and then the Spectrum programs, as I am sure that would delight other buyers of the magazine?

C Morton,
Gedling,
Nottingham.

ERRORS AND MISHAPS

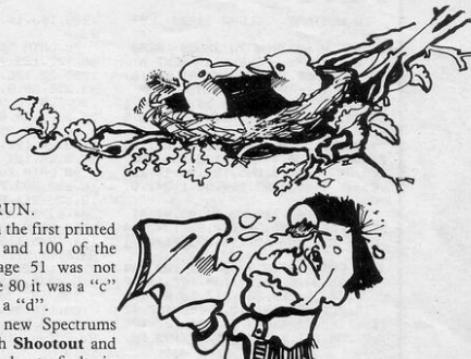
LINE 2002 of **Protector** on page 14 of the September issue contains a "L" sign. It should be replaced by a hash sign "#".

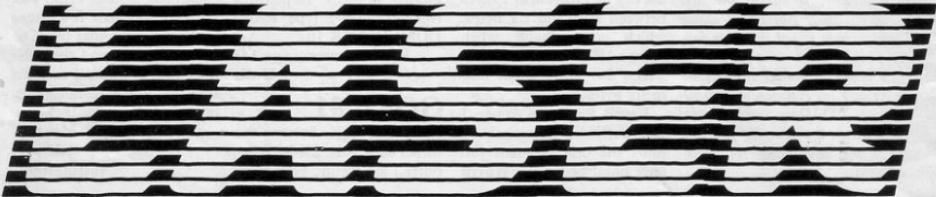
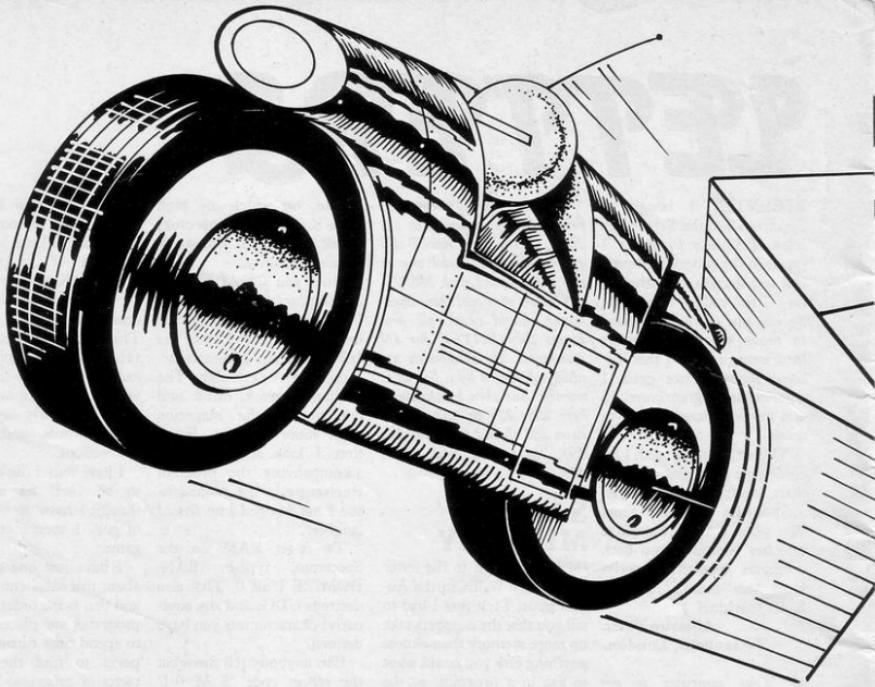
The layout of **Shootout** on page 30 proved puzzling to several people. Section one of the program—lines 30 to 9030—should be entered and RUN, giving the instructions and user-defined graphics. The program should then be NEWed, leaving the user-defined graphics in memory, and the rest of the

program entered and RUN.

The last character on the first printed line of both lines 80 and 100 of the program **Kami** on page 51 was not printed clearly. On line 80 it was a "c" and on line 100 it was a "d".

Many people with new Spectrums reported problems with **Shootout** and **Kami**. They were not due to faults in the program listings and are explained in the Letters section.



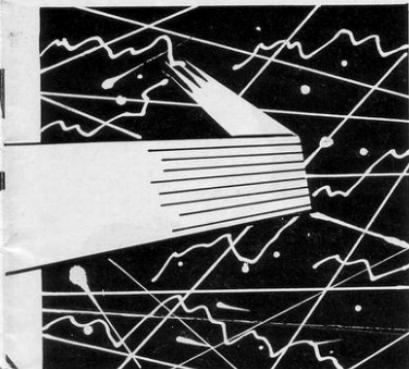


Part 1

```

10 RESTORE : CLEAR 31999; LET
    Y=3
    28 FOR N=32000 TO 32600: READ
    31 LET X=NNNN: PPU n,nn: NEXT n:
    32 IF X<16000 THEN PRINT AT 10,10:
    FLASH 1;"ERROR IN DATA": STOP
    33 DATA 33,8,92,54,56,33,189,1
    27,54,7,35,54,207,95,54,255,35,5
    4,56,35,54,8,35,54,1,35,34,8,25
    54,20,35,54,62,2,203,1,22,1,7,
    7,285,229,34,17,1,1,1,1,153,285
    186,36,1,241,8,285,186,36,17,285
    255,1,9,153,285,196,36,1,241,0
    186,36,1,241,8,285,186,36,17,285
    49 DATA 42,119,92,84,93,41,41,
    25,41,41,41,25,34,119,92,124,254
    8,56,37,254,152,48,232,71,141
    1,25,41,41,25,34,119,92,124,254
    8,56,37,254,152,48,232,71,141
    58 DATA 197,6,9,197,62,189,144
    59,123,92,6,28,33,189,127,197,7
    6,35,78,35,229,265,217,13,62,145
    215,225,193,16,240,6,189,197,42
    186,127,43,43,43,34,106,127,17,
    1,0,285,181,3,193,16,237,193,16,
    204
    60 DATA 289,6,4,197,33,80,8,6,7
    197,128,58,143,92,66,75,213,229
    295,229,34,225,6,180,197,35,229
    17,1,0,285,181,3,225,193,16,243
    ,289,193,16,224,193,16,215,213,1
    93
    79 DATA 58,184,127,120,71,58,1
    95,127,129,79,237,67,186,127,197
    205,22,126,193,197,285,229,34,1
    93,255,58,6,92,39,184,127,254,53
    ,32,7,54,0,35,54,255,24,214,254,
    56,32,7,54,0,35,54,1,24,283
    88 DATA 254,54,327,7,54,255,35,
    54,8,24,192,254,55,32,5,54,1,35
    54,8,24,181
    98 DATA 285,170,34,71,126,4,7,
    16,253,289,71,48,22,193,193,39,6
    9,126,211,254,70,16,126,4,75,124,
    254,23,32,205,33,39,29,21,281
    19,46,39,119,48,254,35,42,285
    88,6,19,211,254,47,68,211,254,19
    79,16,254,193,16,243,53,62,19
    215,6,2,215,1,5,24,285,217,13,3
    3,109,127,39,32,205,49,26,237,91
    ,109,127,99,186,43,124,254,255,3
    28,193,193,16,8,0,21,27,14,262,92,
    95,237,83,100,127,62,16,215,62,7
    ,215
    110 DATA 33,188,127,52,166,256,
    19,56,2,54,255,35,135,133,111,12
    6,254,255,205,79,127,229,229,79
    35,78,205,217,13,62,32,215,33,18
    6,127,126,35,79,22,255,20,214,8
    48,251,62,33,146,79,62,175,145,24
    2,255,20,214,8,48,251,62,24,145,
    71,225,197,126,184,194,8,3,60,24,1
    61,119
    120 DATA 71,35,126,185,46,3,60,
    24,1,61,119,79,197,285,217,13,19
    3,225,17,143,92,124,184,32,14,12
    5,185,32,19,225,62,1,16,62,147,24
    15,195,35,126,39,33,91,17,132,8,1
    51,237,82,16,251,65,43,16,252,53
    2,198,48,12,225,33,143,92,54,7
    62,145,219,45,2,20,21,21
    130 DATA 225,197,16,197,127,187,
    126,194,229,76,35,78,205,216,
    13,62,144,215,33,8,0,1,26,21,254
    ,35,124,254,9,3,24,225,193,16,
    223,54,255,33,143,92,54,2,23,199
    127,126,254,255,192,35,155,129,
    54,149,32,225,255,225,1,1,8,217,
    135,52,126
    149 PRINT RT 10,8;"NO ERRORS IN
    DATA"
    150 PRINT RT 12,3;"NOW SAVING D
    ATA TO CASSETTE"
    169 SAVE "STRON2.CODE" 32000,6200
    178 STOP
    9999 SAVE "STRON DATA" LINE 8,8
    EEP 1,1

```



Part 2

Part 2 — continued.

YOUR NAME is Stron and you must play to oppose the evil Mad Control Plan. Move your laser bike with the cursor keys. If the crushers hit your trail they will be destroyed. If you hit your trail, the edge of the play area, or a guard, or if you run out of time before all the crushers are dead, you will be destroyed.

There are four levels to survive, each with a shorter time limit, and faster speeds than the previous level. On the fourth level the guards are invincible and you must try to survive until the time limit.

Laserbikes was written for the 16K Spectrum by Roger Allen of Gerrards Cross, Buckinghamshire. It is divided into two parts, the first of which controls the machine code. LOAD and RUN the first section, then LOAD the second section and RUN by entering GOTO 20.

DONKEY DIAMOND

```

1 LET C=2
2 LET F=9
3 LET I=6
4 LET H=22
5 LET G=16
6 LET SC=0
7 CLS
8 PRINT AT 6,0;"(32*1sp)"
9 PRINT AT 21,0;"(32*1sp)"
10 FOR R=1 TO 20
11 PRINT AT R,0;"(1sp)",AT R,3
1/"(1sp)"
12 NEXT R
13 PRINT AT 4,24;"(1<1*1:i)""
14 PRINT AT 17,1;"(9e:3*97:9r"
sP:9e:3*97:9r:sp:9e:3*97:9r:sp:9
e:3*97:9r:sp:9e:3*97:9r)""
15 PRINT AT 20,1;"(30*9a)""
16 PRINT AT 18,1;"(5*97:sp:5*9
7:sp:5*97:sp:5*97:sp:6*97)""
17 PRINT AT 13,4;"(9e:97:9r:sp
:9e:97:9r:sp:9e:97:9r:sp:9e:97:9
r:sp:9e:97:9r:sp:9e:97:9r)""
18 PRINT AT 14,4;"(9w:96:99:sp
:9w:96:99:sp:9w:96:99:sp:9w:96:9
9:sp:9w:96:99:sp:9w:96:99)""
19 PRINT AT 16,27;"H":AT 13,27
;"H":AT 15,27;"H":AT 14,27;"H"
20 PRINT AT 9,6;"(7*1sp)""
21 FOR R=9 TO 12
22 PRINT AT R,6;"H"
23 NEXT R
24 PRINT AT 9,20;"(5*1sp)""
25 FOR R=5 TO 8
26 PRINT AT R,21;"H"
27 NEXT R
28 PRINT AT 5,22;"(9e:5*97:9r)
;"R,6,22;"(9w:5*96:99)""
29 FOR R=5 TO 16
30 PRINT AT R,29;"H"
31 NEXT R
32 LET R#=INKEY$"
33 LET C=C+(R#=8)-(R#=5)""
34 LET SC=SC+1
35 PRINT AT 6,C;"(i ?)":AT G,C
1;"":AT G,C+1;"":AT 16,27;"H"
36 PRINT AT 9,13;"(7*9s)":AT 8
,14;"":"""""
37 IF R#=6 AND C=29 AND G=4
THEN GOTO 7000
38 LET F=F+1
39 IF R#=7 AND C=27 AND G=16
THEN GOTO 87
40 IF R#=7 AND C=12 AND G=6
THEN GOTO 99
41 LET H=H-1
42 IF G=4 AND C=24 THEN PRINT
AT 4,23;""
43 LET I=I+1
44 IF R#=1 THEN LET C=C-2
45 IF G=4 AND C=29 THEN GOTO 9
8
46 IF R#=1 THEN PRINT AT G,C
+2;""
47 IF R#=0 THEN LET C=C+2
48 IF R#=0 THEN PRINT AT G,C
-2;""
49 PRINT AT 8,1;"E":AT 8,I-1;""
50 IF I=12 THEN LET I=6
51 PRINT AT 16,H;"0 0":AT 16
,H+5;""
52 PRINT AT 12,7;""
53 PRINT AT 12,F;"(st)":AT 12,
F-1;""
54 IF F>24 THEN LET F=9
55 IF F=C AND G=12 THEN GOTO 7
56 IF G=8 AND C=14 OR C=16 AND
G=8 OR C=18 AND G=8 THEN GOTO 7
57 IF H=1 THEN LET H=22
59 IF C=5 AND G=8 THEN GOTO 77
60 IF C=12 AND G=16 THEN GOTO
77
61 IF C=18 AND G=16 THEN GOTO
77
62 IF R#=7 AND C=21 AND G=8

```



CLIMB THE LADDERS to reach the diamond at the top. Jump the barrels on the first floor, the alien on the second floor, and the guardian and the ghosts of past adventurers on the third floor. Move left with "5", jump left with "1", move right with "8", and jump right with "0" and climb ladders with "7".

Falling down a hole or hitting anything will kill you. Once you have your score, return to the ground floor by the ladder on the right of the screen to obtain your score.

Donkey Diamond was written for the 16K ZX-81 by Charles Sandison of Caithness, Scotland.

```

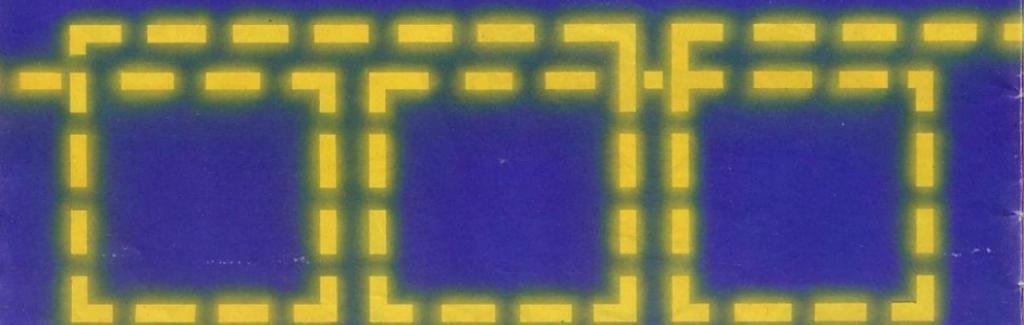
THEN GOTO 94
 63 IF C=24 AND G=16 THEN GOTO 7
 64 IF C=7 AND G=12 THEN GOTO 7
 65 IF C=11 AND G=12 THEN GOTO 7
 66 IF C=15 AND G=12 THEN GOTO 7
 67 IF C=19 AND G=12 THEN GOTO 7
 68 IF C=6 AND G=16 THEN GOTO 7
 69 IF G=12 AND C=23 OR C=28 AND G=12 THEN GOTO 7
 70 IF C=H+4 AND G=16 THEN GOTO 7
 71 IF C=H AND G=16 THEN GOTO 7
 72 IF C=I AND G=8 THEN GOTO 77
 74 PRINT AT 12,F-2;" ";AT 8,12
;" ";AT 16,5;" ";AT 16,1;" "
 75 PRINT AT 12,24;" "
 76 GOTO 32
 77 FOR F=G TO 19
 78 PRINT AT F,C;"(1")";AT F,C
 79 NEXT F
 80 PRINT AT F,C;""

```

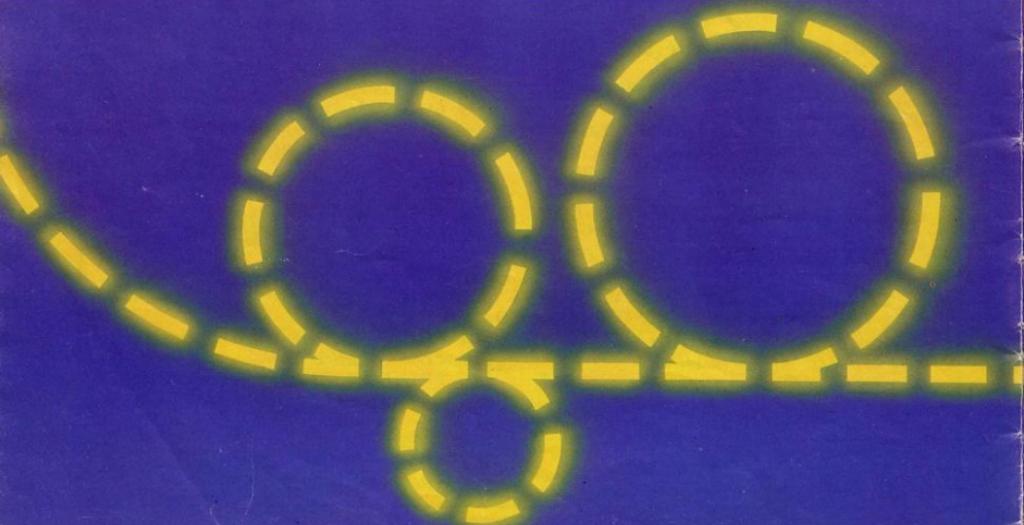
```

 81 PRINT AT 0,0;" too bad-Pres
s "" to try again "
 82 PRINT AT 21,0;" Press
" " to stop "
 83 INPUT B#
 84 IF B$="S" THEN STOP
 85 IF B$<>"S" THEN GOTO 1
 86 STOP
 87 PRINT AT 12,27;"(1")"
 88 LET G=12
 89 GOTO 32
 90 PRINT AT 0,6;"(1")"
 91 PRINT AT 12,6;"H"
 92 LET G=8
 93 GOTO 32
 94 PRINT AT 4,21;"(1")"
 95 PRINT AT 8,21;"H"
 96 LET G=4
 97 GOTO 32
 98 PRINT AT 16,C;"(1")";AT 4,2
 99 S;" "
 101 PRINT AT 0,0;" well done~mi
ssion completed~"
 103 PRINT AT 21,0;" time takenE
";SC;" scoreL";100-SC;"(4*kisP
"
 104 INPUT B#
 105 IF B$="" THEN GOTO 1
 106 IF B$<>"" THEN STOP

```



THE TRICKSTICK. A REVOLUTION THAT RUN AROUND ORDINARY JOY





You know what it's like when there's someone closing in fast and your joystick won't do what your brain wants it to.

It won't let you loop or curve the way you'd like, or arc and spin at the speed you want.

You can't get away quick enough, so what happens? ZAP!

For just £28.00 (+ postage), the Trickstick responds at the speed of light.

With its revolutionary light sensitive controls and own interface, the Trickstick lets you go where you want, at the speed you want.

Not just up and down or side to side, but round and round in any sized curve or loop you need to build up really big scores.

And the Trickstick is easy to use. All you do is pass your thumb or fingers over the controls and your craft responds.

Immediately.

And because the only moving parts are the firing buttons, the new Trickstick will last far longer than old fashioned joysticks.

Best of all, for £28.00 (+ postage), you get a Trickstick, a special training program and a chance to enter The National Trickstick Championships.

Up to eight people can play simultaneously.

For the very first time, you can now play with up to seven of your mates.

With our specially written game, you can either play against the computer, against one friend, in teams of two or three or however you want.

Just by plugging in extra interfaces to each



S RINGS STICKS.

other, up to eight of you can loop the loop and battle it out. All at the same time.

So if you thought computer games were already exciting, wait until you get your hands on a Trickstick.

Revolutionary new software.

Developed especially for use with the Sinclair ZX Spectrum and fully compatible with standard Kempston software, the Trickstick makes your existing software even more fun.

But because it's so revolutionary, it's actually made possible a whole new generation of software.

The first of this new generation is Attaktics, a brand new game which really brings out the full potential of the Trickstick and is available for only £7.50 when you buy your Trickstick.

So fill in the coupon now. And start running rings around your mates before they start running rings around you.



Please send me (state number required) :-

Trickstick's with training cassette at £28 each Attaktics at £7.50

(with each Trickstick) Attaktics at £10.00 (without Trickstick)

Postage 65p. I enclose Cheque/P.O. for made payable to East London Robotics Ltd.

My Access Visa is

NAME ADDRESS

Please send to: East London Robotics Ltd, Gate 11, Royal Albert Dock, London E16. 24 hour information service: 01-471 3308. 24 hour Access/Visa ordering: 01-474 4715. Special enquiries: 01-474 4430 (Telex: 8815271). Same day despatch to phoned Access or Visa orders.

**EAST LONDON
ROBOTICS**



BARON

YOU ARE a Baron who has total control of his country. With each move you must plant food for the next year. You cannot plant more corn than you have, or more than twice your population, or more than eight times your land acreage. You must also feed your vassals.

Each vassal needs four bushels of corn per move. If you over-feed your population it will grow quickly; if you starve more than a quarter of it to death, there is a chance that you will be assassinated. Can you survive for 20 years?

Written for the ZX-80 by W K Rose of Hawkhurst, Kent.

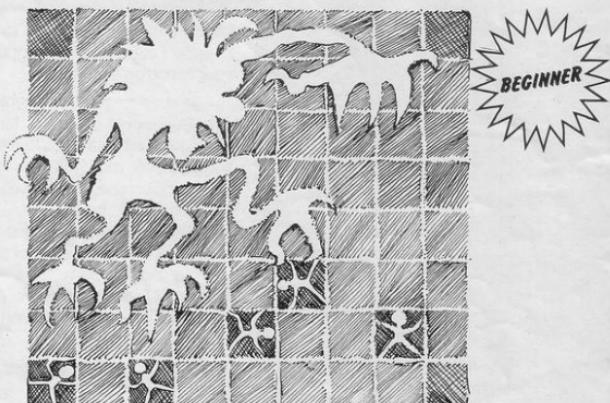
A TEN BY TEN grid is printed on the screen, at one point on which the invisible **Hurkle** is hiding. You have five attempts in which to find it. After each guess you will be told in which direction the hurkle is in relation to you.

Written for the ZX-80 by Mike Davies of Llandeilo, Dyfed.

```

1 LET K=0
2 LET X=RND(10)-1
3 LET Y=RND(10)-1
4 PRINT "G- P- +++++++"
5 PRINT "CORN CH$((161); ""012345689"""
6 FOR F=1 TO 5
7 INPUT B
8 INPUT A
9 LET R=A-3
10 LET S=B-3
11 IF R>9 OR S>9 OR A>8 OR B>8
12 THEN GOTO 9
13 LET B$=" "
14 IF A=X THEN LET B$="UP"
15 IF B=Y THEN LET B$="DOWN"
16 IF B>X THEN LET B$="LEFT"
17 IF B<X THEN LET B$="RIGHT"
18 IF A>Y THEN LET B$="UP"
19 IF A<Y THEN LET B$="DOWN"
20 PRINT B$;" "
21 IF R=X AND B=Y THEN GOTO 28
22 LET K=2+PEEK(16396)+PEEK(163
23 POK K+R*128+B,170
24 POK K+119,164-F
25 PRINT "YOU FAILED IMBE CILE
26 PRINT "I WAS RT UP=";9-Y$;""
27 ALONG:-X
28 PRINT "ARRGH,YA GOT ME...
29 PRINT "ARRGIN"
30 INPUT A$;
31 IF A$="Y" AND NOT A$="N
32 THEN GO TO 20
33 IF A$="N" THEN STOP
34 CLS
35 RUN

```



HURKLE

ANIMATION was published as 3D was in our September issue, to suggest new ways of using Spectrum graphics. Jonathon Healey of Winchester, Hampshire has produced a man who walks from the right to the left of the screen. The movement is smooth and resembles that of an animated cartoon.

We would be interested in seeing programs which develop the technique further (16K Spectrum).

```

10 FOR f=0 TO 11
20 FOR n=0 TO 7
30 READ a: POKE USR LCHR# 144+  

f+4*n: a
40 NEXT n: NEXT f
50 DATA 0,0,0,0,0,0,0,0,2,1,0,  

0,0,0,0,3,0,0,0,0,0,112,112,32,1  

20,164,26,96,80,208,156,132
60 DATA 0,0,0,0,1,0,0,0,0,3,  

0,0,0,0,3,0,0,0,192,192,128,19  

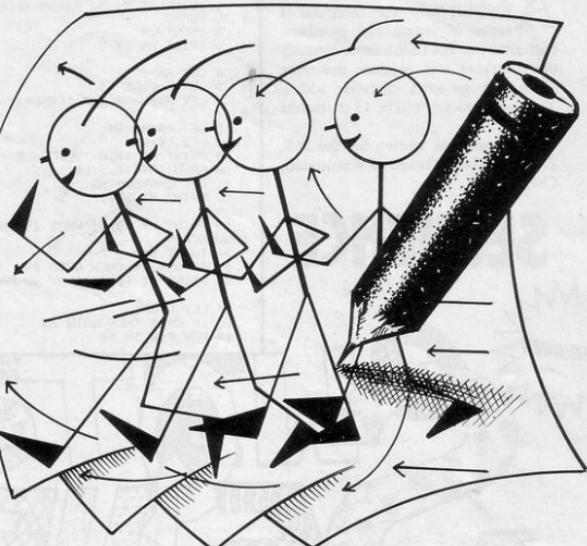
2,224,208,224,192,192,192,192,19
2
100 DATA 0,0,0,0,0,28,92,72,62,  

9,9,56,68,66,192,7,0,0,0,0,0,0,0  

,0,0,0,0,0,0,0,0
110 LET a$="acbd"
120 LET b$="egfh"
130 LET c$="ikjl"
140 FOR z=98 TO 0 STEP -1
150 FOR f=0 TO 2
155 READ
160 PRINT AT 10,33945 TO 20,45
11,3,49*2 TO 3
170 PAUSE 8
180 NEXT f
190 RESTORE 155
195 NEXT z
200 DATA a$,b$,c$  

210 CLS : GO TO 140

```



ANIMATION



MIRROR PATTERNS

```

15 BORDER 0: PAPER 0: INK 6: C
20 FOR I=1 TO 160 STEP 7.55
30 PLOT 0,(160-I): DRAW I,-(16
0-I)
40 PLOT 0,I: DRAW I,-I+168
50 NEXT I
60 FOR I=1.5 TO 4.7 STEP .1
70 INK 7: PLOT 127,86: DRAW 10
80 COS I,SGN I, INK I
90 NEXT I: INK 5
9990 FOR I=0 TO 175: FOR I=0 TO
127
9991 IF POINT (I,J)=1 THEN PLOT
255-I,J
9992 NEXT I: NEXT J
9993 LET L=22520: LET G=22544
9994 FOR J=1 TO 22
9995 FOR I=15 TO 0 STEP -1
9996 POKE G+(15-I).PEEK (L+I)
9997 NEXT I
9998 LET L=L+92: LET G=G+32
9999 NEXT J

```

MIRROR PATTERNS, written for the Spectrum by Graham Walkden of Banchory, Kincardineshire, will copy the contents of the left-hand side of the screen to the right-hand side. Colours as well as patterns are copied. The program also contains a colourful demonstration.

ATTEMPT to remember and ENTER into the computer a series of letters and numbers. Each time you ENTER a series correctly the computer will produce the same series with an extra character added. The final sequence will be 15 characters long.

Sequence was written for the 16K ZX-81 by Gavin Aitken of Warrington, Cheshire.

SEQUENCE

BEGINNER

AIR-SEA LANDER

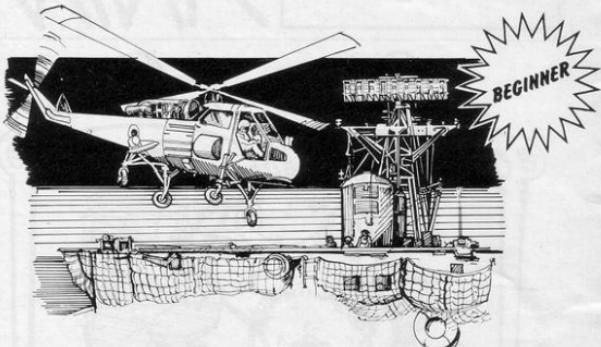
LAND YOUR helicopter on the moving ship using the usual cursor keys. You must line up the X on your helicopter with the X on the ship and land before your fuel is exhausted.

Air-sea Lander was written for the 1K ZX-81 by Michael McRoberts of New Brighton.

```

1 PRINT AT 21,5;"PRESS newlin
2 INPUT #2#
3 PRINT AT 21,5;""
4 LET A$=""
5 LET C$=CODE ""
6 LET BS=CHR$ INT ((RND*196)+2
8)
7 LET A$=A$+BS
8 LET C$=A$+BS
9 PRINT AT 10,0;"SEQUENCE."
10 PRINT AT 10,9;BS
11 LET Z=RND*100
12 PRINT AT 10,9;""
13 PRINT AT 20,0;"WHAT IS THE
SEQUENCE?"
14 INPUT #0#
15 IF S$="" THEN GOTO 23
16 PRINT AT 16,4;"OKAY SO FAR.
"
17 LET C=C+1
18 IF C=15 THEN GOTO 29
19 FOR F#=1 TO 50
20 NEXT F
21 CLS
22 GOTO 6
23 CLS
24 PRINT AT 6,4;"SORRY, THAT I
S WRONG"
25 PRINT AT 10,0;"SEQUENCE IS
"
26 PRINT AT 16,4;"YOU SCORED "
10;" OUT OF 15."
27 GOTO 32
28 CLS
29 PRINT AT 10,10;"FANTASTIC..
"
30 PRINT AT 12,4;"YOU HAVE A G
REAT MEMORY."
31 PRINT AT 14,4;"YOU SCORED 1
OUT OF 15."
32 PRINT AT 21,6;"ANOTHER GO
T(Y/N)"
33 IF INKEY$="Y" THEN RUN
34 IF INKEY$<>"N" THEN GOTO 33
35 STOP
36 SAVE "MEMORY GAME"
38 RUN

```



```

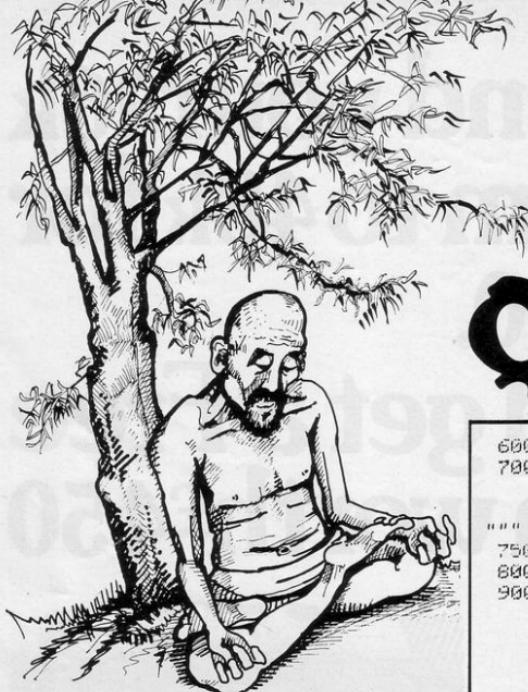
10 LET L=VAL "5"
20 LET C=VAL "25"
30 LET A$=""
40 FOR T=VAL "0" TO VAL "60"
50 CLS
55 LET D=INT (RND*4)+6
60 PRINT AT 18,5;"-----"
70 PRINT AT L+2,C+1;A$;AT L,C;"(gf:1
x:97)*";AT L-1,C-1;"-----"
70 IF A$="" THEN PRINT AT 18,D
;"(gf:3*isp:1x:2*isp:9e)""
90 IF L=VAL "17" AND C=D+3 THE
N LET A$="0"

```

```

95 IF L=VAL "18" THEN GOTO 300
100 IF A$="9" AND L=VAL "17" TH
EN GOTO 500
120 LET C=C+(INKEY$="B")-(INKEY
$="5")
130 LET L=L+(INKEY$="6")-(INKEY
$="7")
140 NEXT T
200 PRINT "OUT OF FUEL"
200~PRINT "OUT OF FUEL"
300 PRINT "CRASH"
310 STOP
500 PRINT "LANDED ";T

```

IAIN MILLAR of Newcastle-on-Tyne wrote *Quest* for 16K ZX-81 owners wishing to trick gullible friends. You may move in any of the six mystical directions to find the meaning of life and perfect happiness. Millar says that the record so far is 23 minutes.

QUEST

```
> 100 REM THE QUEST FOR THE
    "MEANING OF LIFE"
    BY IAIN DAVID MILLAR
101 REM
150 PRINT " the Quest for th
e
"               meaning of life
160 PRINT
200 PRINT " AFTER BECOMING DIS-
    ILLUSIONED WITH THE
    SUPERFICIALITIES OF
    OF THE MATERIAL WOR
LD
TO
E
ING
300 PAUSE 500
400 CLS
500 PRINT " YOU MAY TRAVEL IN
    ANY OF THE SIX
    MYSTIC DIRECTIONS
    GIVEN TO YOU BY
    THE WISENED SAGE
    BEFORE YOU DEPAR-
TED- NAMELY:
UP
DOWN
BACK
FORTH
IN
OUT"
```

```
600 PRINT
700 PRINT " IF YOU THINK THAT
    YOU HAVE REACHED
    YOUR GOAL, TYPE ""*"
    "
750 PAUSE 500
800 CLS
900 PRINT " IN WHICH MYSTIC DI-
    RECTION DO YOU WISH
    TO BEGIN YOUR JOUR-
NEY, O SEEKER OF
    ENLIGHTENMENT ?"
910 INPUT A#
920 PAUSE 175
930 CLS
940 IF A#="*" THEN GOTO 1500
950 IF A#="UP" OR A#="DOWN" OR
A#="BACK" OR A#="FORTH" OR A#="I
N" OR A#="OUT" THEN GOTO 910
960 PRINT
970 PRINT " THE QUEST SHOULD NO
T
    BE UNDERTAKEN BY
    THOSE STILL CAUGHT
    IN THE TRAPPINGS OF
    THE MATERIAL WORLD.
    PLEASE CONFINE YOUR
    SELF TO THE MYSTIC
    DIRECTIONS IN ORDER
    TO REACH ENLIGHTEN-
MENT."
980 PRINT
990 PAUSE 500
1000 GOTO 910
1500 PRINT
1600 PRINT "
    "
1700 PRINT " YOU HAVE REACHED EN
    LIGHTENMENT "
1800 PRINT "      NIRVANA AWAITS Y
OU
    "
1900~PRINT "
    "
2000 STOP
```



YOUR AIM is to succeed in completing the fifth level of **Quasimodo** and thus to reach Esmerelda. On the first three levels you must jump the barrels and the holes to ring the bell. On the fourth level, swing down the rope, jump the barrels and ring the bell. On the fifth level jump the barrels and climb the ropes until you meet Esmerelda. The faster you complete each level the more points you will score.

Written for the 16K Spectrum by Ian Maddock of Stockport, Cheshire.

QUASIMODO





SHARP

```

10 LET Z=100
20 FOR B=1 TO 10
30 PRINT "(SP:97:9h)""
40 NEXT B
50 FOR B=1 TO 28
60 PRINT AT 6,B;">="""
70 IF INKEY$="" THEN GOTO 110
80 NEXT B
90 LET Z=25
100 GOTO 150
110 FOR D=5 TO 0 STEP -1
120 PRINT AT D,B+1;"=";AT D,B+1
130 "
130 NEXT D
140 LET Z=2-2
150 PRINT AT 6,B;" "
160 FOR B=9 TO 29
170 PRINT AT 6,B;
180 IF PEEK (PEEK 16390+256*PEEK
K 16399)=100 THEN GOTO 50
190 NEXT B
195 PRINT AT 0,0;"SCORE";Z)
200 PRINT AT 10,1;"GAMEOVER PL
H AGAIN? PRESS ANY KEY"
210 PAUSE 40000
220 CLS
230 RUN

```



SHOOTER

SHOOT all the boxes, without missing any or going off the screen. If you miss a box, two points will be deducted from your score and if you go off-screen five points will be deducted. The maximum score is 100.

Sharp Shooter was written for the 1K ZX-81 by Colin Baxter of Crawley, Sussex.



AGF

PROGRAMMABLE JOYSTICK INTERFACE

for

Spectrum or ZX81

ABOUT OUR PROGRAMMABLE INTERFACE

Surpassing the outstanding specification of our Interface Module II which still offers the best software support at its price, a Joystick Interface that is compatible with ALL SOFTWARE through its unique hardware programmable design.

The Interface plugs on to the rear connector of your ZX81 or ZX Spectrum.

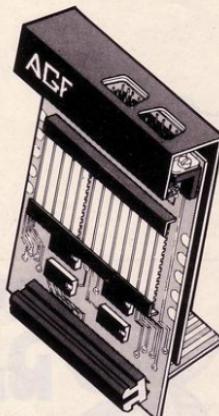
Quick clip-on connections, which are configured from a reference card supplied, allow you to define which of the 16 keys are simulated by which action of the Joystick. A pack of ten Quick Reference Programming Cards makes setting for your favourite games even easier. These can be filled in to show at a glance the configuration required and stored in the cassette case of the particular game. When you change to a game using different keys the module is re-programmed in a few seconds.

As with our Interface Module II the Programmable Interface accepts all standard switch Joysticks that are Atari-compatible. Two sockets are available which are connected together for two player games which use the same keys for both players.

The Interface resides in the keyboard address space and does not affect its operation or interfere with any other add-ons. A rear extension edge connector will accommodate expansion of your system.

The unique AGF key simulation principle makes it extremely easy to incorporate Joystick action in your own programs. All eight directions and fire are read by simple BASIC.

With every order comes a free demonstration program called "Video Graffiti" plus a full set of instructions.



KEY FEATURES

- * Programmable design gives TOTAL software support.
- * Accepts Atari, Competition Pro, Wico, Starfighter, Quick Shot, Le Stick etc.
- * Rear extension connector for all other add-ons.
- * Free demo program and instructions.

PACKAGE CONTENTS SUPPLIED

- Programmable Interface Module as illustrated, complete with clip-on programming leads.
- Self adhesive programming chart detailing how to define which key is simulated by UP, DOWN, LEFT, RIGHT and FIRE. This chart can be cut out in the case of your computer or if preferred the protective backing can be left on. The chart is made of a very durable reverse printed plastic and is extremely easy to read.
- One pack of ten Quick Reference Programming Cards for at-a-glance setting to your game requirements. The card allows you to mark the configuration in an easy to read fashion with space to record the software title and company name.
- Video Graffiti demonstration program which is written totally in BASIC to illustrate how all eight directions and fire can be read. This is also a useful high resolution drawing program.
- 12 months guarantee and full written instructions.

JOYSTICKS

ATARI
CONTROLLERS

FOR USE WITH OUR INTERFACE
Module or VIC 20, Commodore 64,
Atari VCS, Atari 400, Atari 800

If you require extra Joysticks for our
original interface module mark order
"OLD" Joysticks

ONLY £7.54 inc VAT + P&P

FROM: MR/MRS/MISS

ADDRESS

SEND C.W.O. (NO STAMP NEEDED) TO: A.G.F. HARDWARE, DEPT. SPR

FREEPOST, BOGNOR REGIS, WEST SUSSEX, PO22 9BR

QTY	ITEM	ITEM PRICE	TOTAL
	PROGRAMMABLE INTERFACE	33.95	
	JOYSTICK(S)	7.54	
	PACK(S) QUICK REFERENCE CARDS	1.00	
ONE	VIDEO GRAFFITI	FREE	
ZX81 <input type="checkbox"/>	ZX SPECTRUM <input type="checkbox"/>	Please tick	FINAL TOTAL
DEALER ENQUIRIES WELCOME		EXPORT PRICES ON APPLICATION	

THE WORLD'S FINEST PROGRAMMING TUTORIAL
FOR ONLY
£12.95



THERE'S NO PRESENT LIKE THE FUTURE.

Thousands who own, or would like to own home computers have yet to experience the feeling of discovery that comes when you write your own programs. Yet learning programming can be easy.

'Learn Basic' from Logic 3 is the ultimate development of the method first devised at Strathclyde University—a straightforward, easily understood tutorial written by Professor Andrew Colin and Veronica Colin, authors of Britain's best-selling tutorial package.

Using the method tested by university students and used successfully by over 200,000 home computer users, 'Learn Basic' runs on your own computer and explains everything in clear non-American English without jargon or computer talk. In a matter of hours, you will be writing programs that work.

Essentially, 'Learn Basic' and the rest of the 'Learn Computing' Series that will follow soon are designed for people who want to keep abreast of the computer age. For people who realise that understanding computers is the key to future success, at school, at work and as a parent.

Make your future, and your family's future, richer this Christmas. Get 'Learn Basic' by Logic 3—two tapes and a full-size manual for Spectrum or Dragon (others soon) at just £12.95.

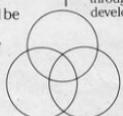
At that price, it's a gift. Buy the Logic 3 'Learn Computing' Series at computer shops and major retail stores all over Britain. In case of difficulty, write to Logic 3 in Windsor.

TO: Logic 3 Ltd, Mountbatten House, Victoria Street, Windsor SL4 1HE.

If you would like to know more about using and programming a computer in your home, send this coupon for our free 16-page explanatory booklet "100 things you wanted to know about computers." It will help you cut through the jungle of computer jargon, and give you news about software developments—even games.

Name _____

Address _____



LOGIC 3

— the key to the world of tomorrow.

I have already/intend to get a _____ microcomputer
(delete as applicable)



CONSTELLATIONS is an educational program for the 16K ZX-81. It will display any one of

six constellations on the screen and could be modified to include many more. It was written by Zoe O'Sullivan

of north London. All asterisks in the program should be entered in the inverse mode.

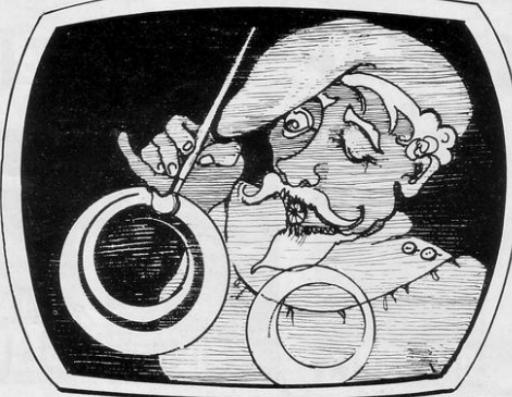
```

10 PRINT "SOME STAR MAPS"
20 PRINT
30 PRINT "1=THE PLOUGH"
31 PRINT "2=CASSIOPEIA"
32 PRINT "3=URSA MINOR"
33 PRINT "4=CEPHEUS"
34 PRINT "5=BOOTES"
35 PRINT "6=LEO"
40 INPUT A
45 PAUSE 150
46 CLS
50 IF A=1 THEN GOTO 60
51 IF A=2 THEN GOTO 100
52 IF A=3 THEN GOTO 140
53 IF A=4 THEN GOTO 180
54 IF A=5 THEN GOTO 220
55 IF A=6 THEN GOTO 260
60 GOSUB 1000
76 PRINT AT 13,6;"*";AT 10,10;"*";
    ";AT 10,13;"*";AT 10,18;"*";AT
    13,21;"*";AT 10,28;"*";AT 6,28;
    "*"
80 PRINT TAB 1;"THE PLOUGH"
90 STOP
100 GOSUB 1000
110 PRINT AT 4,10;"*";AT 8,11;"*";
    ;AT 9,14;"*";AT 13,15;"*";AT 1
    2,19;"*"
120 PRINT TAB 1;"CASSIOPEIA"
130 STOP
140 GOSUB 1000
150 PRINT AT 15,9;"*";AT 15,12;"*";
    ;AT 11,12;"*";AT 10,10;"*";AT
    7,15;"*";AT 5,17;"*";AT 4,20;"*";
    "
160 PRINT TAB 1;"URSA MINOR"
170 STOP
180 GOSUB 1000
190 PRINT AT 2,8;"*";AT 12,14;"*";
    ;AT 4,17;"*";AT 8,22;"*";AT 11
    ,21;"*";AT 14,20;"*";AT 15,20;"*";
    ;AT 15,19;"*"
200 PRINT TAB 1;"CEPHEUS"
210 STOP
220 GOSUB 1000
230 PRINT AT 3,10;"*";AT 4,14;"*";
    ;AT 13,12;"*";AT 9,6;"*";AT 19
    ,15;"*";AT 3,19;"*";AT 13,23;"*"
240 PRINT TAB 1;"BOOTES"
250 STOP
260 GOSUB 1000
270 PRINT AT 12,6;"*";AT 11,10;"*";
    ;AT 7,10;"*";AT 13,20;"*";AT
    16,16;"*";AT 15,29;"*";AT 10,20;"*";
    ;AT 8,17;"*";AT 5,17;"*";AT 2
    ,21;"*";AT 4,2;"*"
280 PRINT TAB 1;"LEO"
290 STOP
300 FOR N=1 TO 22
305 FAST
310 PRINT "(32*1sp)"
320 NEXT N
325 SLOW
330 RETURN

```

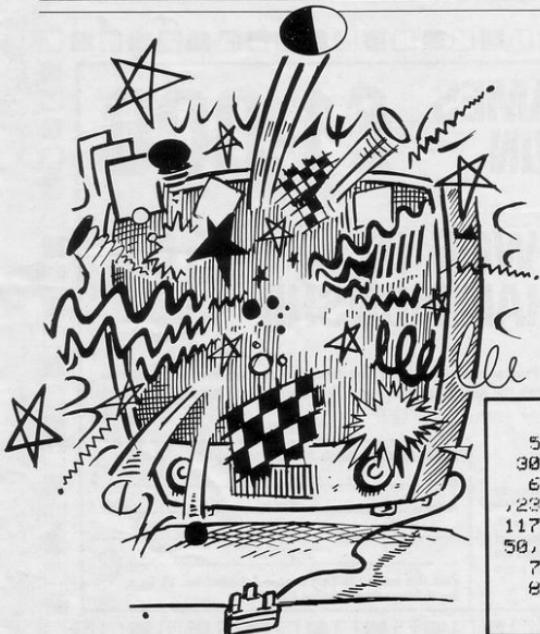
COLOURING

COLOURING, by Michael Matan of Southport, Merseyside shades objects drawn on the Spectrum. Line 100 has been included to show how much clearer a circle shaded by this method is than a circle shaded by drawing several circles, one inside the other. Several objects can be shaded but changing colours to do that will result in colours overlapping.



```
1 CLEAR 32476: LET start=3247
7
100 INK 1: CIRCLE 100,100,60: G
0 SUB 9996: STOP
9996 OVER 1: RESTORE 9000: FOR 9
=start TO start+122: READ P: POKE
E,4,P: NEXT 9: RANDOMIZE USR sta
rt: OVER 0: RETURN
9997 DATA 62,2,205,1,22,6,175,14
,255,17,0,190,62,190,186,40,7,62
,195,186,40,2,24,29,213,197,205,
```

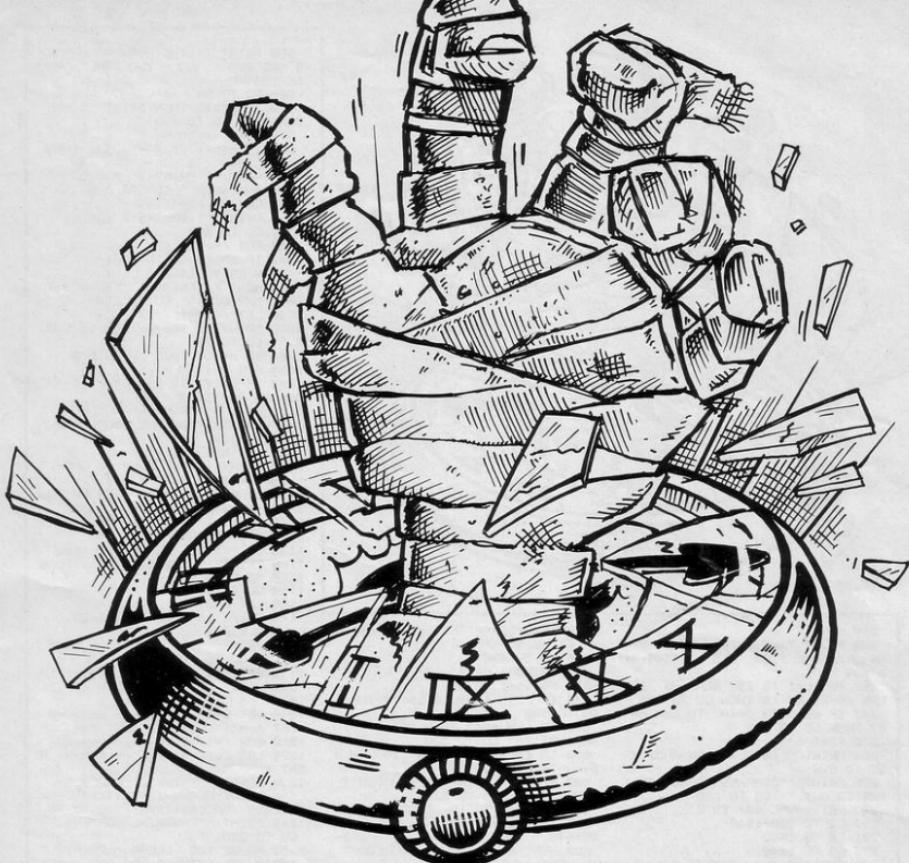
```
266,34,205,213,45,193,209
9998 DATA 254,1,40,5,17,0,190,24
,47,62,195,186,40,42,17,0,178,24
,37,213,197,205,206,34,205,213,4
,5,193,209,254,0,40,9,62,178,186
9999 DATA 40,18,22,195,24,14,62
,178,186,32,2,80,89,213,197,205,2
29,34,193,209,13,32,175,62,190,1
86,40,7,62,195,186,40,2,24,4,5,3
2,155,281,123,185,40,248,12,245,
197,205,229,34,193,241,24,243
```



SCREEN FLASH

GRAHAM WALKDEN of Banbury, Kincardineshire has written *Screen Flash*, a spectacular routine for the 48K Spectrum. When it is RUN, both border and screen change colours and patterns rapidly, including several colours rarely seen on the Spectrum, such as orange and shocking pink.

```
50 CLEAR 29999: FOR 1=30000 TO
30020: READ A: POKE 1,A: NEXT 1
60 DATA 14,255,6,29,33,0,91,62
,229,113,0,211,254,43,61,194,57
,117,5,120,194,55,117,13,121,194
,50,117,201
70 RANDOMIZE USR 30000
80 REM ^ ACTIVATES CODE ^
```

ESCAPE FROM TIME

ESCAPE FROM TIME is the first full-scale adventure program for the 48K Spectrum to be printed in *Sinclair Programs*. Your aim is to escape through time into your own world. To do so you must find the crystal of power and a microchip to power your time machine.

Once you have them you must take them to the Time Room. Commands which you will use most frequently are north, south, east, west, up, down, enter, leave, look, take, drop, list and open.

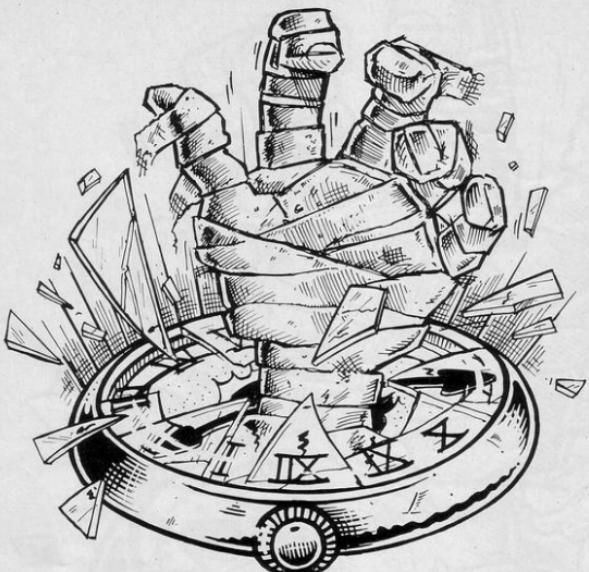
Written by Mark Chapman of Bracknell, Berkshire.

10 POKE 29609,20: GO TO 1190
 15 PRINT "" THE OBJECT IS TO ESCAPE BACK INTO YOUR OWN TIME THROUGH A TIME MACHINE. TO FLY THE MACHINE, A PROGRAMMED MICROCHIP AND THE CRYSTAL OF POWER ARE NEEDED.

GOOD LUCK

!"
 20 IF o<3>0 THEN GO TO 155
 30 LET n=0: LET s=0: LET e=0:
 LET w=0: LET u=0: LET d=0: LET r=0:
 LET l=0: GO SUB <2000+r*n*10>5
 40 LET mm=0: LET mm=1 INT (RND*8
 >1
 50 IF mm=6 AND n>0 THEN LET m
 r=n
 60 IF mm=5 AND s>0 THEN LET m
 r=s
 70 IF mm=4 AND e>0 THEN LET m
 r=e
 80 IF mm=3 AND u>0 THEN LET m

r=u
 90 IF mm=2 AND w>0 THEN LET m
 r=w
 100 IF mm=1 AND d>0 THEN LET m
 r=d
 110 IF mm=7 AND e=n>0 THEN LET
 m=r
 120 IF mm=6 AND l>0 THEN LET m
 r=l
 130 IF mm=0 THEN GO TO 40
 140 IF mm=r THEN PRINT "" IN THE
 E ROOM WITH YOU IS THE MUMMY!
 " LET x=x+1: GO SUB 9390
 150 IF x>5 THEN GO TO 1250
 155 LET n=0: LET s=0: LET e=0:
 LET w=0: LET u=0: LET d=0: LET r=0:
 LET l=0: LET m=0: GO SUB 2000+r*10
 160 LET z=0
 170 FOR f=1 TO 12
 180 IF c*f>r THEN GO TO 210
 190 IF z=0 THEN PRINT "" THERE
 IS ALSO!"
 200 LET z=1: PRINT " "c*f)



```

210 NEXT f
220 PRINT "WHAT WILL YOU DO ?"
230 RESTORE 9100: CLS : PRINT "
  *1,2
238 FOR c=1 TO 29: READ d$: IF
LEN d$=2*LEN a$ THEN GO TO 258
240 IF d$<3 TO 248 TO LEN d$-
2) THEN GO TO 280
250 NEXT c
260 PRINT "INVALID COMMAND."
GO TO 220
270 PRINT "COMMAND CANNOT BE C
ARRIED OUT."
GO TO 220
280 LET z=VAL d$(2)
290 GO TO 290+z*10
291 GO TO 1400
295 GO TO 1340
300 IF b$=5 THEN PRINT (" YOU C
AN'T CARRY ANYMORE.")
GO TO 220
310 FOR f=1 TO 12
320 IF c(f)>0 THEN GO TO 340
330 NEXT f: PRINT " I DON'T SE
E IT !"
GO TO 220
340 IF LEN a$=5*LEN c(f) THEN
GO TO 330
345 IF LEN a$=6 THEN PRINT " T
AKE WHAT ?"
GO TO 220
350 IF a$<6 TO >c(f), TO LEN a
$-5) THEN GO TO 370
360 GO TO 330
370 FOR g=1 TO 4
380 IF b$(g,1)>0 THEN GO TO 4
80
390 NEXT g: STOP
400 LET b$(g)>c(f)
401 LET b$(g)=c(f)
410 LET b=b+1
420 LET c(f)=0
430 PRINT "OKAY."
440 GO TO 220
450 FOR g=1 TO 4
460 IF LEN a$=5*LEN b$(g) THEN
GO TO 480
465 IF LEN a$=6 THEN PRINT " D
ROP WHAT ?"
GO TO 220
470 IF a$<6 TO >b$(g), TO LEN a
$-5) THEN GO TO 490
480 NEXT g: PRINT " YOU DON'T
HAVE IT !"
GO TO 220
490 LET b=b-1
500 FOR f=1 TO 12
510 IF c(f)>0 THEN GO TO 530
520 NEXT f: STOP

```

```

530 LET c(f)=r: LET c$(f)=b$(g)
1 LET b$(g)=0
540 GO TO 430
550 RESTORE 9200
560 FOR g=1 TO 4
570 IF LEN a$=4*LEN b$(g) THEN
GO TO 590
575 IF LEN a$<5 THEN PRINT " U
SE WHAT ?"
GO TO 220
580 IF a$<5 TO >b$(g), TO LEN a
$-4) THEN GO TO 600
590 NEXT g: PRINT " YOU DON'T
HAVE IT !"
GO TO 220
600 FOR h=1 TO 10: READ e$
610 IF VAL e$<2>r THEN GO
TO 630
620 NEXT h: PRINT " YOU CAN'T
IN HERE."
GO TO 220
630 IF e$<3 TO >b$(g), TO LEN a
$-2) THEN GO TO 620
640 GO TO VAL e$*2>10+3000
650 GO TO 20
660 PRINT " YOU ARE CARRYING: "
670 LET g=1
680 FOR f=1 TO 4
690 IF b$(f,1)>0 THEN GO TO 7
20
700 PRINT " >b$(f)
710 LET g=0
720 NEXT f
730 IF g=0 THEN PRINT " NOTHING."
740 GO TO 220
750 IF n$=>0 THEN GO TO 1180
760 LET r=n$ GO TO 20
770 IF l$=>0 THEN GO TO 1180
780 LET r=l$ GO TO 20
790 IF u$=>0 THEN GO TO 1180
800 LET r=u$ GO TO 20
810 IF w$=>0 THEN GO TO 1180
820 LET r=w$ GO TO 20
830 IF e$=>0 THEN GO TO 1180
840 LET r=e$ GO TO 20
850 IF d$=>0 THEN GO TO 1180
860 LET r=d$ GO TO 20
870 IF m$=>0 THEN GO TO 1180
880 LET r=m$ GO TO 20
890 IF l$=>0 THEN GO TO 1180
900 LET r=l$ GO TO 20
910 CLEAR: STOP
920 IF r=>8 THEN GO TO 940
930 IF r=>11 THEN GO TO 1240
935 LET r=0: GO TO 950
940 LET r=1

```

```

950 PRINT " THE ROCK FACE OPEN
S AND YOU WALK THROUGH."
PAU
SE 180
960 GO TO 20
970 IF r>12 THEN PRINT " YOU
CAN'T."
GO TO 220
971 FOR f=1 TO 4
980 IF b$(f), TO 4>="wood" THEN
GO TO 1380
980 NEXT f: PRINT " YOU DON'T
HAVE ANY WOOD."
GO TO 220
988 LET b$(f)=>"ladder"
1000 PRINT " YOU'RE A GENIUS ! "
1020 GO TO 660
1030 FOR f=1 TO 4
1040 IF b$(f), TO 10>="can of oil
" THEN GO TO 1068
1050 NEXT f: PRINT " YOU DON'T
HAVE ANY OIL."
GO TO 220
1060 LET o$=>1
1070 PRINT " THE BUTTON IS LOOS
E."
GO TO 220
1080 IF r>31 THEN GO TO 270
1089 FOR f=1 TO 4
1090 IF b$(f), TO 8>="hair Pin"
HEN GO TO 1110
1100 NEXT f: PRINT " YOU NEED S
OMETHING TO PICK THE LOCK WITH."
GO TO 220
1110 LET o$=>1
1120 PRINT " THE DOOR IS OPEN."
1 LET e$=35: GO TO 220
1130 IF r=35 OR r=43 THEN GO TO
1131
1134 PRINT " I DON'T SEE A BUTT
ON !"
GO TO 220
1135 IF o$=1 THEN GO TO 1168
1140 PRINT " THE BUTTON IS TO S
TUFF TO PUSH."
1150 GO TO 220
1160 LET r=37
1170 PRINT " THE LIFT RISES."
GO SUB 9300: GO TO 20
1180 PRINT " YOU CAN'T GO THAT
WAY."
GO TO 220
1190 RESTORE 9000: DIM o$(5): DIM
b$(4,10): DIM c$(12): DIM d$(12,
10)
1200 LET y=0: LET v=0: LET x=0:
LET m=21: LET b=1: LET r=1
1210 FOR f=1 TO 12: READ a$:
1220 LET c(f)=a$: LET c$(f)=s$: H
EXT f
1230 BORDER 7: INK 0: PAPER 7: C
LS : PRINT FLASH 1: *****$*****$C$A
PE FROM TIME*****$C$A: GO TO 15
1240 PRINT " NOTHING HAPPENS."
GO TO 220
1250 PAUSE 100: CLEAR: PRINT "
THE MUMMY CATCHES YOU AND TAKES
YOU PRISONER OF HIS DOMAIN. THERE
IS NO ESCAPE FOR YOU...SURREY!"
1260 BEEP .001.50 BEEP .001.0
FOR f=1 TO 5: BEEP .003.INT (RND
#20): NEXT f: BEEP .01.5: GO TO
1266
1270 IF r=21 THEN LET o$=1
1280 IF r=4 THEN LET o$=1
1290 IF r>21 AND r<4 THEN GO T
O 1330
1300 IF r=21 THEN PRINT " THE M
UMMY CASE OPENS RELEASING THE MU
MMY FROM ITS TOMB."
1310 IF r=4 THEN PRINT " THE DO
OR SWINGS OPEN."
1314 IF r=21 THEN GO SUB 9300
1315 IF r=4 THEN LET e$=14
1320 GO TO 220
1330 PRINT " YOU CAN'T."
GO TO 220
1340 IF r=mm THEN GO TO 1360
1350 PRINT " YOU CAN'T."
GO TO 220
1360 FOR f=1 TO 4
1370 IF b$(f), TO 5>="knife" THEN
GO TO 1390
1380 NEXT f: GO TO 1390
1390 PRINT " YOU STAR THE MUMMY
AND IT DISINTERGRATES AT Y
OUR FEET."
LET d$(g)=r: LET n$=0
GO SUB 9610: GO TO 220
1400 PRINT " YOU ENTER INTO AN
OTHER ROOM THROUGH THE MIRROR.
LET r=29: LET e$=0: GO TO 220
2010 PRINT " YOU ARE AT A CROSS

```

```

ROADS IN THE PASSAGE."
2015 LET n=2: LET s=9: LET w=8:
LET e=3: RETURN
2020 PRINT " YOU ARE AT A JUNCT
ION WHERE YOU CAN GO NORTH, WEST O
R SOUTH."
2025 LET n=5: LET w=7: LET s=1:
RETURN
2030 PRINT " YOU COME TO A JUNC
TION IN THE PASSAGE WHERE THE E
XITS ARE WEST AND NORTH, AN OPEN D
OOR IS IN THE EAST END OF THE PAS
SAGE."
2035 LET n=4: LET w=1: LET e=13
: RETURN
2040 PRINT " THE PASSAGE COMES
TO A DEAD END APART FROM A DOOR T
O THE EAST."
2041 IF e(1)>0 THEN PRINT " THE D
OOR IS LOCKED TIGHT."
2042 IF e(1)>1 THEN PRINT " THE D
OOR IS WIDE OPEN": LET e=14
2045 LET s=3: RETURN
2050 PRINT " AT A TURNING IN TH
E PASSAGE, STEPS GO DOWN, THE P
ASSAGE GOES SOUTH AND EAST."
2055 LET s=2: LET e=6: LET d=10:
RETURN
2060 PRINT " A HIGH WALL SEEKS
TO PREVENT YOU FROM GOING EAST
WARDS, TO THE WEST THE WAY IS CLE
AR."
2065 LET w=5: RETURN
2070 IF e(2)>0 THEN PRINT " THE
FLOOR IS COVERED IN GREASE AND
AS YOU TRY TO GO OVER IT, YOU SLIP
BACK, IT LOOKS AS IF YOU WILL
HAVE TO GO EAST."
2073 IF e(2)>1 THEN PRINT " YOU
ARE IN A CLEAN, EAST/WEST PASS
AGE.": LET w=12
2075 LET e=2: RETURN
2080 PRINT " A SHEET OF ROCK BL
OCKS YOUR WAY TO THE WEST SO EXIT
TO THE EAST."
2085 LET e=1: RETURN
2090 PRINT " YOU COME TO A JUNC
TION IN THE PASSAGE, DIRECTIONS
ARE NORTH, EAST AND SOUTH."
2095 LET n=1: LET s=17: LET e=15
: RETURN
2100 PRINT " AT THE BOTTOM OF T
HE STEPS IS A CELLAR, THE ROOM IS
PRETTY MUCH EMPTY AND VERY DIRT
Y."

```

```

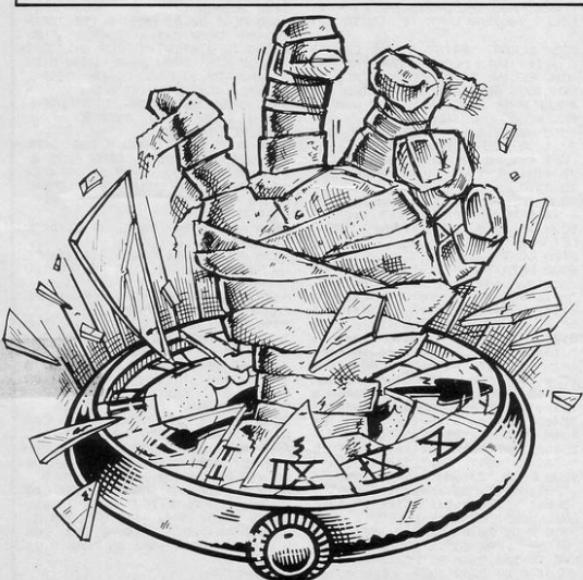
Y."
2105 LET w=5: RETURN
2110 PRINT " YOU ARE IN A ROOM
WITH A TABLE IN THE CENTRE OF IT
BEHIND YOU, THE ROCK FACE IS CL
OSED."
2115 RETURN
2120 PRINT " YOU ARE IN A WORKS
HOP, TOOLS HANG AROUND THE WAL
LS AND A WORK BENCH IS IN TH
E CENTRE."
2125 LET l=7: RETURN
2130 PRINT " YOU ARE IN THE LIV
ING QUARTERS OF A CREATURE, A FIR
E PLACE IS IN THE CORNER OF THE R
OOM."
2135 LET l=9: RETURN
2140 PRINT " THROUGH THE DOOR Y
OU FIND THAT YOU ARE IN A LIBRAR
Y, BOOKS ARE STACKED NEATLY ON S
HELVES THAT ARE VERY HIGH."
2145 LET l=4: RETURN
2150 PRINT " YOU COME TO A RIVE
R FLOWING NORTH TO SOUTH, ON T
HE BANK IS A BOAT, YOU CAN RETURN
TO THE WEST."
2155 LET w=9: RETURN
2160 PRINT " YOU ROW THE BOAT A
CROSS THE RIVER WHERE YOU ENT
ER A CAVERN, YOU BOARD LAND AND
LEAVE THE BOAT ON THE BANK."
2165 RETURN
2170 PRINT " YOU ARE AT THE TOP
OF SOME STEPS, A PASSAGE LEA
DS NORTH."
2175 LET d=18: LET w=9: RETURN
2180 PRINT " YOU ARE AT THE BOT
TON OF THE STEPS, A CORRIDOR GO
ES NORTH AND A DOOR IS IN THE WE
ST WALL."
2185 LET u=17: LET w=19: LET w=2
0: RETURN
2190 PRINT " YOU ARE IN THE CEN
TRE OF SOME PASSAGES, THEY GO NO
RTH, EAST AND SOUTH."
2195 LET e=23: LET w=21: LET s=1
8: RETURN
2200 PRINT " YOU ARE IN A BROOM
CUPBOARD."
2205 LET l=18: RETURN
2210 PRINT " YOU ARE IN AN EGYP
TIAN ROOM, A MUMMY CASE STANDS I
N THE CORNER, ON IT IS INSCRIBED
":, POKE 23606,60: POKE 23607,0

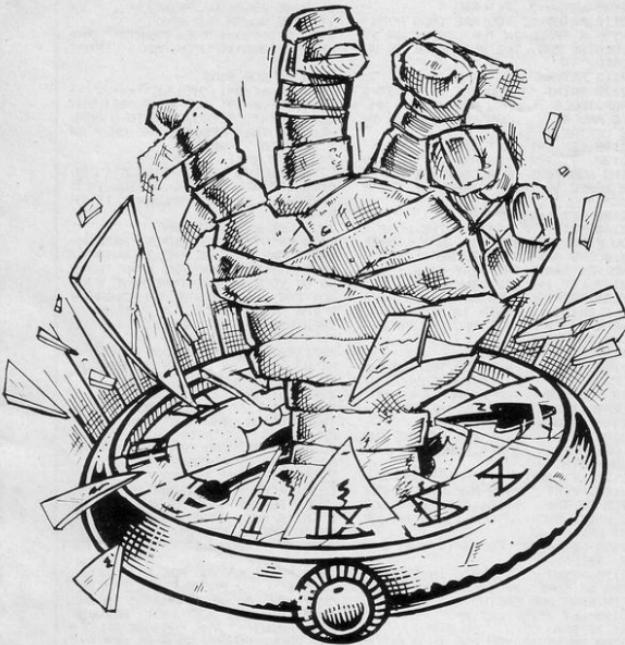
```

```

11 PRINT "BEWARE": POKE 23607,6
0: POKE 23606,0: PRINT "": EX
ITS ARE SOUTH AND EAST."
2212 IF e(3)>1 THEN PRINT " THE
MUMMY CASE IS OPEN AND EMPT
Y."
2213 GO SUB 9338
2214 IF e(3)>1 THEN LET e=2?
2215 LET s=19: LET e=22: RETURN
2220 PRINT " YOU COME TO A DEAD
-END IN THE PASSAGE, THE ONLY WA
Y BACK IS WEST."
2225 LET w=21: RETURN
2230 PRINT " THIS PASSAGE IS CL
OSED OFF AT ONE END, A SIGN IS U
READABLE ON THE WALL, EXIT TO TH
E WEST."
2235 LET w=19: RETURN
2270 PRINT " YOU ENTER THROUGH
THE MUMMY CASE AND IT SWINGS
SHUT--TIGHT! YOU ARE NEAR THE E
ND OF YOUR ADVENTURE, HAVE YOU
GOT THE CRYSTAL OF POWER AN
D THE MICRO CHIP? IF YOU HAVE
THEN USE THEM IN THE RIGHT ORDER."
2271 PRINT " IF YOU DON'T HAVE O
NE OF THEM OR EITHER OF THEM TH
EN YOU ARE LOST."
2275 RETURN
2280 PRINT " A HIGH WALL IS TO
THE WEST, ON THE LEFT OF THE PAS
SAGE IS A MIRROR IN THE WALL.
TO THE EAST YOU CAN SEE A TURNI
NG IN THE PASSAGE."
2285 LET e=30: RETURN
2290 PRINT " A MIRROR IS IN THE
WALL BEHIND YOU, THE ROOM YOU AR
E IN IS AN ARMORY, A DOOR IS OP
EN TO THE EAST."
2295 LET l=28: LET e=36: RETURN
2300 PRINT " YOU ARE AT A BEND
IN THE PASSAGE, YOU CAN GO
SOUTH OR WEST."
2305 LET w=28: LET s=31: RETURN
2310 PRINT " THE PASSAGE ENDS I
N A DOOR, YOU CAN GO BACK NORTH I
F YOU NEED. :"
2311 IF e(4)>0 THEN PRINT " THE D
OOR IS LOCKED."
2312 IF e(4)>1 THEN PRINT " THE D
OOR IS OPEN."
2313 IF e(4)>1 THEN LET e=35
2315 LET n=30: RETURN
2350 PRINT " IN THE ROOM IS A L
IFT, THE BUTTON IS ON THE WA
LL, BY IT, AN OPEN DOOR IS THE EX
IT FROM THE LIFT ROOM."
2355 LET l=30: RETURN
2360 PRINT " IN THE ROOM IS A D
RESSING TABLE."
2365 LET l=29: RETURN
2370 PRINT " THE LIFT OPENS ON
TO A HALL. YOU CAN GO BACK DOW
N OR EAST."
2375 LET e=43: LET s=38: RETURN
2380 PRINT " YOU ARE STANDING A
T A JUNCTION, YOU MAY GO NORTH, WE
ST OR SOUTH."
2385 LET w=42: LET w=39: LET s=4
0: RETURN
2390 CLEAR: PRINT " YOU FALL I
NTO A PIT COVERED BY FLOOR TILES
AS THEY OPEN UNDER YOUR FEET, Y
OU TRY TO GRASP THE EDGE BUT MI
SS AND FALL TO YOUR DEATH.": PA
USE 300: GO SUB 9469
2395 BEEP .009-10: BEEP .01-1 B
EEP .02, INT (RND*10): GO TO 2395
2400 PRINT " YOU WALK INTO A RO
OM AND ON THE FLOOR YOU SEE A TRA
P DOOR, YOU WILL HAVE TO GO BAC
K NORTH, BUT ONLY ONCE."
2405 LET n=39: LET s=41: RETURN
2410 GO TO 2390
2420 GO SUB 9530: PRINT " YOU A
RE BACK AT THE LIFT, YOU CAN UN
DO DOWN OR BACK EAST."
2425 LET e=38: LET d=43: RETURN
2430 GO SUB 9590: PRINT " THE L
IFT OPENS ONTO THE GROUND FLOOR.
A DOOR IS OPEN IN THE WEST WALL O
F THE ROOM, PUSH THE BUTTON TO GO
BACK UP."
2435 LET l=30: RETURN

```





```

3068 PRINT " THE LADDER REACHES
THE TOP OF THE WALL AND YOU CLIMB UP IT. ON TOP OF THE WALL YOU
PICK IT UP AND USE IT TO GET DOWN THE OTHERSIDE."
3065 LET r=29: GO TO 220
3070 PRINT " THE GREASE WASHES
OFF THE FLOORMAKING IT CLEAN."
3075 LET c2=1: GO TO 28
3150 FOR f=1 TO 4: IF b(f)=0
    THEN GO TO 3153
3151 NEXT f
3152 CLEAR : GO SUB 9560: PRINT
    " THE BOAT DRIFTS DOWN STREAM A
    S YOU DON'T HAVE ANY OARS, AS YOU
    DRIFT YOU HIT YOUR HEAD, AND FR
    ULLVERBLOOD, DASH TO REMOVE THE
    BOAT FROM YOUR HEAD."
3153 PRINT " YOU ROW THE BOAT T
    O THE OTHER DRINK."
3154 LET m1=1: THEN GO TO 3152

```

```

3155 LET l=15: GO TO 320
3157 LET r=16: GO TO 320
3162 GO TO 3150
3163 PRINT "THE DOOR UNLOCKS A
  ND FALLS OPEN": LET em=20: GO TO
  320
3164 PRINT " THE WRITING ON THE
  MUMMY CASE SAYS \"BEWARE\"": GO
  TO 320
3165 PRINT " THE SIGN SAYS--USE
  THE WORDS \"OPEN SESAME\" IN
  THE RIGHT PLACE AND YOUR WAY WIL
  L BE (CLEARED)": GO TO 320
3227 IF as5 TO 320 THEN as="micro-chip" 0
  ar5 TO 320 THEN ar="m" AND yy=1 THEN GO
  TO 3220
3275 GO TO 3380
3381 PRINT " YOU CLIMB OVER THE
  WALL": LET rs=5: GO TO 280
3494 IF as5 TO 3495 THEN "crystal" 0R as
  5 TO ">c" AND yy=1 THEN GO TO
  3550
3380 IF as5 TO 3381 THEN "crystal" 0R as
  5 TO ">c" THEN LET yy=1

```

3319 GO TO 230
3320 CLEAR : PRINT "" AS YOU READ
IN AND CONNECT THEMICRO-CHIP,
POWER FROM THE CRYSLALIMEDIATIY
KILLS YOU.BRD LUCK !": GO TO 239
5

```

3350 CLEAR : PRINT "" THE CRYSTA-
L SLIPS INTO PLACE. AND THE MAC-
HINE BEGINS TO SHAKE. YOU FALL UN-
CONSCIOUS AND WAKE UP TO FIND YOU-
RESELF BACK HOME IN YOUR OWN TI-
ME. WELL. DONE. INDEED!""
3360 BEEP .1.10: BEEP .1.20: BEE-
P .1.30: BEEP .1.20: BEEP .1.10:
FOR f1=1 TO 10: BEEP .01,INT (F-
10*10)+NEXT f1: GO SUB 9430: GO
TO 3350
3380 IF a$K5 TO )="micro-chip" O-
R a$K5 TO )="m" THEN LET y=1
3380 IF a$K5 TO )="ladder" THEN

```

```

9448 GO TU 3239
9699 DATA "key",11,"oars",12,"wo
od",13,"code book",14,"boat",15,
"crystal",16,"knife",29,"can of
oil",18,"micro-chip",48,"hair Pi
n",36,"mop",29,"torch",1
9188 DATA "19a through mirror",
"1,enter mirror",1,"through mir
or",1,"skill",1,"6north",1,"4south"
,"5east",1,"5west",1,"54up",1,"56de
n",1,"8center",1,"6leave",1,"63open s
esame",1,"9open",1,"68make ladder",
"74oil button",1,"78pick lock",1,"84
push button",1,"81take",1,"16down",
"26use",1,"36look",1,"37list",1,"624up",
"46n",1,"48s",1,"56e",1,"52w",1,"56d"
9288 DATA "23code book",1,"16boat",
"281adder",1,"361adder",1,"37mop",
"381adder",1,"7crystal",1,"18key",1,"21c
ode book",1,"27microchip",1,"30
9699 PLOT 20.8 DRAW 0.139 DRAW
0..50 DRAW 235.0 OVER 1 FOR
#H TO 100 STEP 3: FOR G=1 TO 2
PLOT 0.8 DPM 20.8 DRAW 0.28

```

```

DRAW -20,0 DRAW 8,-20: BEEP ,0
1,2: NEXT 9: NEXT h
9318 DRAW 20,0: DRAW 0,20: DRAW
-20,0: DRAW 0,-20: OVER 0
9320 RETURN
9326 PLOT 122,-0: DRAW 20,0: DRAW
5,40: DRAW -15,10: DRAW -15,-10
DRAW 5,-40
9340 IF x<3*1 THEN 60 TO 9370
9350 POKE 23687,0: PRINT AT 17,1
3,"49"
9368 POKE 23687,60: GO TO 9380
9370 PLOT 152,0: DRAW 20,0: DRAW
5,40: DRAW -15,10: DRAW -15,-10
DRAW 5,-40
9380 RETURN
9390 PLOT 86,0: DRAW 4,30: DRAW
0,20: DRAW -3,-20: DRAW -6,0: D
RAW 3,20: DRAW 10,0: DRAW -2,10
DRAW 11,0: DRAW -2,-10: DRAW 10,
0
9400 DRAW 3,-20: DRAW -6,0: DRAW
-3,20: DRAW 0,-20: DRAW 4,-30
DRAW -22,0: DRAW 10,0: DRAW 1,15
DRAW 1,-15
9410 RETURN
9420 OVER 1: FOR h=0 TO 50 STEP
4: FOR 9=1 TO 2: BEEP ,0,129: PL
OT 120,h: DRAW 40,0: DRAW 16,30
DRAW -15,0: DRAW -15,-5: INK 5
DRAW 4,4: DRAW -4,4: DRAW -4,-4
DRAW 4,-4: INK 0: DRAW -15,-5
DRAW -15,0: DRAW 10,-30
9430 NEXT 9: NEXT h: OVER 0
9440 OVER 1: PLOT 120,h: DRAW 40
,0: DRAW 10,30: DRAW -15,0: DRAW
-15,-5: INK INT (RND(7)): DRAW 4,
4: DRAW -4,4: DRAW 4,-4: DRAW 4
,-4: INK 0: DRAW -15,-5: DRAW -1
5,0: DRAW 10,-30
9450 PAPER 0: BORDER 0: CLS : PR
PER 7: BORDER 7: CLS : RETURN
9460 PLOT 0,100: DRAW 255,0: D
RAW -130,0: DRAW OVER 1:40,0: DRAW
-2,-25
9470 PLOT 125,0: DRAW 50,0: DRAW
0,10: DRAW -6,0: DRAW 0,-4: D
RAW -38,2: DRAW -10,-2: DRAW -5,2
DRAW -7,-7,PI: DRAW 3,-1: DRAW
3,0: DRAW 0,-10
9480 PLOT 145,0: DRAW 8,-1: DRAW
15,-8: DRAW 0,2: DRAW 15,0,-8: D
RAW 8,-1: DRAW 20,0
9490 RETURN
9500 PLOT 20,0: DRAW 0,150: DRAW
-50,-50: DRAW 235,0: OVER 1: FOR
h=100 TO 9 STEP -3: FOR 9=1 TO 2
PLOT 8,h: DRAW 20,0: DRAW 8,20
DRAW 20,0: DRAW 0,-20: BEEP
,0,1,h: NEXT 9: NEXT h
9510 PLOT 20,0: DRAW 0,-20: DRAW
-20,0: DRAW 0,-20: OVER 0
9520 RETURN
9530 PLOT 20,-8: DRAW 0,150: DRAW
8,-50: DRAW 235,0: DRAW -235,0
9540 PLOT 0,100: OVER 1: DRAW 20
,0: DRAW 0,20: DRAW -20,0: DRAW
0,-20: OVER 0
9550 RETURN
9560 PLOT 0,50: DRAW 127,2: DRAW
127,-2
9570 PLOT 40,51: DRAW -10,15: D
RAW 50,0: DRAW -1,-14: PLOT 0,100
: DRAW 50,-30
9580 PLOT 40,10: DRAW 100,-10: D
RAW 10,10: DRAW 55,0
9590 PLOT 50,30: DRAW -5,10: PLOT
T 50,30: DRAW 10,10: PLOT 50,30
DRAW 10,-5: PLOT 50,30: DRAW 10,
0: PLOT 50,30: DRAW 0,10: PLOT 5
0,30: DRAW -10,5: PLOT 50,30: D
RAW 10,-5
9600 RETURN
9610 PLOT 125,20: DRAW 30,0: D
RAW W INK 2,10,0: DRAW INK 2,3,-2: D
RAW INK 2,-3,-2: DRAW -30,0: D
RAW 0,-5,-5: DRAW 0,14: DRAW 0,-6,-6
DRAW 10,-10,0: DRAW 0,-2,-2: DRAW 18,0
9620 PLOT 49,39: DRAW 100,0: D
RAW -50,0: DRAW 0,100: DRAW 0,-80
:DRAW 50,0: DRAW -100,0: DRAW 0,120: D
RAW 0,-120: DRAW -100,0: DRAW 0,12
0
9630 RETURN

```



HAUNTED DUNGEON

```
25 LET A=INT (RND*H*H)
30 LET B=A+H
35 LET G=INT (A+RND*H)
40 IF G/F=INT (G/F) OR A/F=INT
(A/F) THEN GOTO T
45 LET S=T+T
50 LET P=A
52 PRINT "(aa)steps"
53 IF NOT G THEN PRINT "AND RI
CH...£";A;Y
55 IF S>T+T THEN LET S=T+T
60 PRINT S
65 LET O=P
70 INPUT M#
80 LET P=P+(M#=“E”)+(M#=“S”)*F
-(M#=“W”)-(M#=“N”)*F
100 IF P>0 AND P>=A AND P<=B A
ND P/F<>INT (P/F) THEN GOTO H+T+
T
105 LET P=0
110 PRINT “...”
```

```
115 GOTO CODE “PI”
120 CLS
125 PRINT (“%” AND P=G)
130 LET G=G*(P>G)
140 IF P>A THEN GOTO CODE “H”
160 RAND P
165 LET R=T*F*RND
170 LET R=INT ((R-INT R)*T)
180 LET S=S-1+T*(R=F)-INT (S*W
T*(R<=I))
190 LET P=P+INT (RND*T*(R=I+I)*
(P+T<=B))
210 PRINT (“ghost” AND NOT R)+(“
dragon” AND R=I)+(“giant bat”)
AND R=I+I)+(“IT’S dark AND WET” A
ND R>X)
220 IF R>X THEN PRINT “DiViNiNg
ROD”;:SGN (G-P)
240 IF S>=I THEN GOTO CODE “R”
250 PRINT “R.I.P”
```

THE MAJORITY of microcomputer owners aim to provide their computers with as much memory as possible. Six months after buying his ZX-81, David Aubrey-Jones of Burley, Leeds removed the RAM pack and set himself the challenge of writing a mappable adventure game.

The result was **Haunted Dungeon** and some memory-saving techniques which allowed him to write other adventures on a 1K ZX-81. Since then he has bought a Spectrum and begun writing machine code games, the latest of which, **Supertalk**, allows the Spectrum to read sentences and to learn words. It has just been marketed by Abbex.

To play the game you must first give values to some variables:

```
LET I=1
LET F=5
LET X=6
LET T=10
LET H=100
```

The game should then be started by ENTERing GOTO 1.

You enter the dungeon down some steps with an initial strength of 20. Your object is to find the treasure and return to the steps without your strength falling below 1. Enter N, S, E or W to move in different directions. You may find your way barred by a wall, have your strength sapped by a monster, or increased by finding food. Divining rods point to the treasure; 1 indicates that they are pointing south and -1 that they are pointing north.

GENERATIONAL
KELWOOD COMPLETES
YOUR COMPUTER
POWER BASE

It's so good, Clive should have thought of it!!

- ON/OFF switch for instant screen clearing
- LOAD/SAVE switch
- All wires included
- Angled for easier use
- Saves wear and tear on connections
- Real value for money

Spectrum Ref PBS1 £13.50 ZX81 Ref PBZX1 £13.00.



AND ALSO
SOUND *GET REAL*
POWER BASE *SOUND FROM*
YOUR SPECTRUM

- All the features of the Power Base plus built-in variable sound amplifier Ref SPB1
- Amazing value at ONLY £19.95

The great Spectrum sound improver
SUPER SOUND SPEC-AMP

- Fully adjustable Spectrum Sound Amplifier
- Simply plugs into mic. socket

Ref SSS ONLY £7.00 (PP3 Battery included)

ZX81 RAM-PACK WOBBLE?

SOLVE IT WITH A
KELWOOD WOBBLE
STOPPER!!

- Firmly clamps Ram-Pack to computer
- No glue
- No solder
- Easily removed

Flat: Ref SW £5.25. Tilted: Ref STW £6.25

Extra long for printer - Flat: Ref LW £5.75. Tilted: Ref LTW £6.75

COMPUTILT

ANGLED STAND

'For a better angle'

fits ZX81 or Spectrum Ref CS1 Terrific value - ONLY £3.50

almost
KELWOOD 1 WIRELESS
WORKSTATION

- Mains ON/OFF switch
- 4x13 amp sockets inside
- Supreme quality
- All wires stow away
- Carrying handle
- Easily stored
- Sturdily built in stove enamelled steel
- Ideal for schools
- Suitable for most micros including Sinclair and BBC
- Acres of room for all peripherals
- Desk top model Ref CW1 £49.00

Accessories for above
Power Base Ref PBS2 £11.00
Power Base Ref PBZX2 £10.50
Legs Ref LCW £11.00
Keyboard Dust Cover Ref KDC £2.50

All prices include VAT and postage and packing

ORDER FORM

Name

Address

SP

QUANTITY	REF	AMOUNT

TOTAL ENCLOSED

Please send me further information with no obligation

Tick if required

V754



KELWOOD COMPUTER CASES

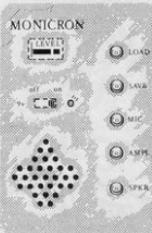
Downs Row, Moorgate, Rotherham. Tel: (0709) 63242

AT LAST....

From MACQUILLAN ELECTRONICS Comes

MONICRON

THE ONLY INDISPENSABLE ADD-ON FOR
SINCLAIR ZX81 & SPECTRUM



LOAD programs first time every time via **VU LEVEL METER**.

SAVE via isolating push-button.

RECORD speech by built-in **MIC**.

AMPLIFY Spectrum 'Squeak' by built-in **AMP. & SPEAKER**.

RESET crashed programs with power **ON-OFF** switch.

MONITOR tape contents.

CUE program start etc.

ALL FUNCTIONS WITHOUT DISTURBING A SINGLE PLUG!

Saves time, temper & worn sockets! **ONLY £14.95** plus £1.00 p+p

From MACQUILLAN ELECTRONICS

72 MERE ROAD, WIGSTON, LEICESTER.

*ZX81 model has tape 'remote' switch - state model when ordering.

TRACE

For any ZX Spectrum, and
now for the 16K ZX81!!!

A superb aid to programming the ZX81/SPECTRUM, allowing you to watch what your BASIC programs are doing every step of the way. Bugs in your programs will be easier to find. Example programs will almost explain themselves. Before the ZX81/SPECTRUM executes each BASIC statement in your program it will display the line number, statement number (SPECTRUM), and the statement itself in the input area (it will not overwrite the main display area). The speed is controllable from single step upwards. You can produce a TRACE listing on the ZX printer, stop your program at any point to print variables or correct errors, and start/stop tracing from anywhere in your program.

"an effective TRACE . . . a useful debugging tool . . . easy to use". S.U. 9/83 reviewing SPECTRUM version.

It might even help you find the errors in the magazine listings!

ZX81 (16K) Version . . . £5.95
Spectrum Version . . . £6.95

Including
P & P from:

TEXGATE COMPUTERS LTD.

Dept. SP, 14 Brook Lane, Corfe Mullen, Dorset BH21 3RD

SPL

FOOTBALL POOLS PROGRAM

- The program lists out, in order of preference, the sixteen most likely score-draws: also the sixteen most likely homes, draws and aways.
- It picks out the results on the bookmakers' FIXED ODDS coupons that have been given over-generous odds. Calculates your expected profit!
- The program will be initialised to the English and Scottish league tables. You will be able to update these league tables week by week as results come in — or enter a complete new set of league tables in other words, the program will never become "out of date"!
- All programs are recorded on a top quality cassette (usually Sony) and are accompanied with an instruction leaflet giving a brief explanation of the theory.

Available for the ZX-81 16K (Price £8.95) and the ZX Spectrum 48K (Price £9.95) from:

HARTLAND SOFTWARE
(Dept. R), 8 Penzance Place,
London W11 4PA.



The ACTION game with the thrills of real football!

Choose your team formations from 3-2-5, 4-2-4, or 4-4-2. When the game starts it's up to you to plan your moves and outwit your opponents. See the results played out by fast machine code routines on a birds-eye view of the pitch.

Make the split second decisions that the professionals have to!

Shall I make the short safe pass and maybe let the defence regroup? Or do I try a long defence-splitting ball and risk an interception? Has my winger got the speed to take on the full back and beat him? Do I try a long shot and catch the goalie off his line?

Or shall I give the ball to a team-mate in a better position?

The more games of "Star Soccer" that you play, the more skillful you will become. You'll learn how to set up the goal-scoring opportunities, and how to get yourself out of tight corners. You'll develop your own style of play and find out which formation suits you best.

Side 1 features a SUPER LEAGUE competition

between 8 top British sides: Aberdeen, Aston Villa, Celtic, Liverpool, Manchester United, Rangers, Spurs and West Ham. 28 games in all and the League Table is automatically maintained for you.

Side 2 replays the WORLD CUP finals. It's a knock-out competition between England, Scotland, N. Ireland, Italy, West Germany, France, Brazil and Argentina. Lots of excitement with sudden-death extra time in drawn games.

It's amazing how so much is packed into 16K!

Available for ZX Spectrum and ZX81

(Please state which machine when ordering) **ONLY £5.95**

Watson Software Services Ltd. (Dept SP)

1, Ivy Cottages, Long Road West, Dedham, Essex CO7 6EL

Trade enquiries welcome.



SPL

SPLAT

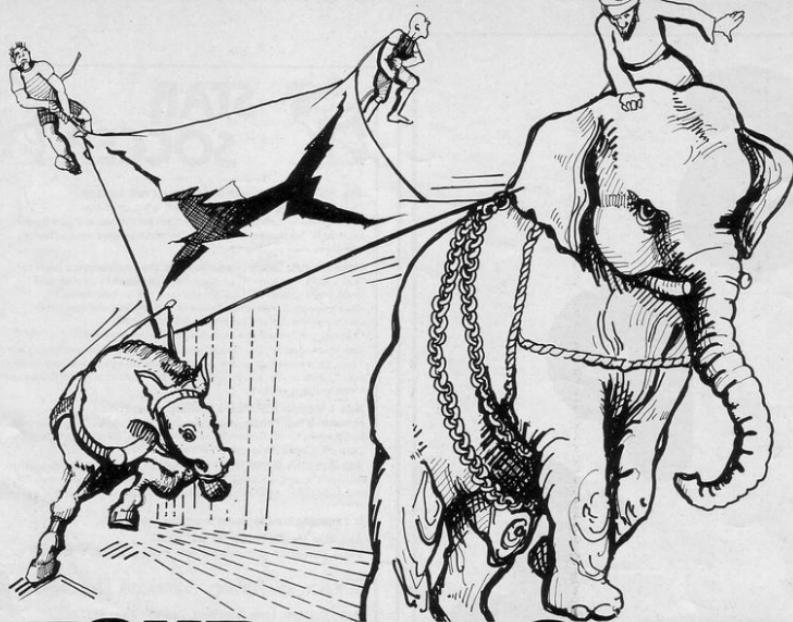
£5.50

SPLAT AN ORIGINAL 48K ZX SPECTRUM CHALLENGE BY THE AUTHOR OF MINED-OUT. OBJECTIVES: EXPLORATION, SURVIVAL AND EATING GRASS! Zippy, Plums, Rivers. A massive 21K play area, 7 levels to explore. User defined controls, also Kempston & A.G.T. joystick compatible. £500.00 High Score Competition. SPLAT evolution by Ian Andrew & Ian Morgan. Also available from all good computer software outlets.

Please send me _____ copies of SPLAT @ £5.50 inclusive 1st Class Post.
I enclose cheque/P.O. for £_____, or please debit my Access Card No. _____

Name.....

Address.....



FOUR-WAY SPLIT

```

1 REM 00000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
0000000000000000000000000000000000000000
20 LET X=16514
30 LET A$=""
40 IF A$="" THEN INPUT A$
50 POKE X,16#CODE A$+CODE A$(2
>-476
60 LET A$=A$(3 TO )
70 LET X=X+1
80 GOTO 46

```

06	0F	C5	2A	0C	40	23	11
D5	02	ED	5A	E5	11	21	00
ED	52	D1	01	4A	01	ED	B8
06	20	23	36	00	10	FB	2A
0C	40	23	E5	11	21	00	ED
5A	D1	01	6B	01	ED	B0	06
16	2A	0C	40	23	F5	D1	23
C5	01	0F	00	ED	B0	2B	36
00	11	13	00	ED	5A	54	5D
1B	C1	10	EC	06	16	2A	0C
40	11	20	00	ED	5A	54	5D
2B	C5	01	10	00	ED	B8	11
32	00	C1	10	EF	C1	10	9A
C9							

```

10 REM **FOUR WAY SPLIT**
20 REM **
30 REM ** BY M.A.BOOLS **
40 REM
50 FOR F=1 TO 11
60 PRINT "<64*1&P)"
70 NEXT F
75 PRINT AT 9,6;" THE FOUR WAY
SPLIT "
76 PRINT AT 10,15;"BY"
77 PRINT AT 11,11;"M.A.BOOLS"
78 PRINT AT 12,9;"press any ke
y"
80 IF INKEY$="" THEN GOTO 80
90 RAND USR 16514

```

FOUR-WAY SPLIT is a machine code sub-routine, written by M A Bools of Spalding, Lincolnshire for the 16K ZX-81. When it is called by the command RAND USR 16514 it will clear the screen by dividing it into four and scrolling each quarter off the screen in a different direction.

Enter program 1 and then RUN it. Then type-in the numbers in the second section, two at a time, working from left to right. When you have entered all the numbers, stop the program by entering "S". The machine code will then be transferred to line one of the program. Delete lines 20 to 30 and replace them with the third program. That will demonstrate the sub-routine when GOTO 10 is entered.



SPACE wAR

YOU PLAY the part of a megalomaniac in a spaceship, determined to destroy every other ship in sight. The television screen represents the view from your window. By pressing 0 your laser cannon will shoot whatever is in the centre of your sights. Move with cursor keys 5,6,7 and 8.

Remember that it is your ship which will move, so your window will appear to remain stationary and the enemy spaceship will seem to move. Thus as you move left the enemy will appear to move right.

Written for the 16K Spectrum by Tim Rose of Woolwich, London.

```

110 PRINT "'20 POINTS DEDUCTED
FOR A MISS 50 POINTS ADDED FOR
A HIT'" INK 21" SIGHT TURNS RED
WHEN FIGHTER IS IN R
ANGLE "
120 PRINT INK 4;" PRESS R
NY KEY TO GO;" INK 6;""
GOOD LUCK"
130 PRINT AT 21,0) INK 6; PAPER
21" T.ROSE NOV. 1982
"
140 IF INKEY$="" THEN GO TO 014
010 REM GAME STARTS HERE
160 CLS
170 PRINT AT 8,13;B#
180 PRINT AT 19,13;C#
190 LET U=INT (RND*16)*2; LET R
=INT (RND*26)*2
200 PLOT 0,19; DRAW 255,0; FOR
X=0 TO 49 STEP 4; PLOT 125*X,15;
DRAW -25*X,-15; PLOT 125*X,15; D
RAW 25*X,-15; NEXT X; LET O=13; F
OR X=73 TO 125 STEP 5; PLOT X,15
DRAW -X,-0; LET O=INT (0/6)*5;
NEXT X; LET O=13; IF O=13 THEN FOR X=178 TO
255 STEP 5; PLOT X,15; DRAW 255-
X,-0; LET O=INT (0/6)*5; NEXT X
210 PRINT E0; FLASH 1; INK 6; P
APER 2;" TOP SCORE=";TS; INK 7;""
220 FOR T=500 TO 0 STEP -1
230 PRINT INK 2; BRIGHT 1;AT Q,
P;R;S
240 LET V=0; LET W=R
250 LET O=0;INT (RND*2)-1; LE
T R=R+INT (RND*2)-1
260 LET R=R+(2^K INKEY$="5")-(IN
KEY$="1")"
270 LET O=0;INT (2^K INKEY$="")-(IN
KEY$="6")"
280 IF R>3 THEN LET O=0+2
290 IF R>3 THEN LET R=R+2
300 IF O>18 THEN LET O=0-2
310 IF R>28 THEN LET R=R-2
320 LET I=6; IF O>9 AND O<12 AN
D R>12 AND R<16 THEN LET I=2
330 PRINT INK 1;AT 8,13;B#;AT 1
3,13;C#
340 IF INKEY$="0" THEN GO TO 48
0
350 IF SK=0 THEN LET S=0
360 PRINT AT V,W;" INK 1; P
APER 4;AT 0,0;"SCORE=";S;" ",IN
K 6; PAPER 5;AT 0,15;"TIME=";T;""
370 BEEP 0,0025,5; BEEP 0,0025,
5
380 NEXT T
390 GO SUB 605B
400 PRINT INK 6; FLASH 1;AT 10,
18;"GAME OVER"; INK 2;"SCORE=";S
410 IF S>TS THEN GO SUB 600
420 BORDER 1; PRINT AT 26,2; IN
K 3;"PRESS ANY KEY TO PLAY AGAIN
"
430 LET S=0
440 FOR X=0 TO 500
450 IF INKEY$="" THEN GO TO 15
0
460 NEXT X
470 GO TO 60
480 BEEP 0,01,7; FOR P=2 TO 6 S
TEP 2; INK P; PLOT 10,16; DRAW 1
13,72; DRAW 130,-72; PLOT 11,16;
DRAW 112,71; DRAW 120,-71; NEXT
P
490 BEEP 0,015,9; BEEP .015,8
500 IF O>9 AND O<12 AND R>12 AN
D R<16 THEN GO TO 530
510 LET S=+20
520 GO TO 580

```



```

530 PRINT PAPER 6: INK 2: FLASH
1:AT Q, R-1;"cccc";AT Q+1, R;"cc"
JAT Q+1, R;"cc"
540 FOR X=0 TO 10: BEEP 0.085,4
550 BEEP 0,0,9: NEXT X
550 FOR X=0 TO 50: NEXT X: PRIN
T AT Q,R-1;" ";"AT Q+1,R;" "
AT Q+1,R;" ";"LET Q=INT(RND*15
)+2: LET R=INT(RND*26)+2
570 LET S=S+58
580 FOR P=19 TO 11 STEP -1: PRI
NT AT P,0;" "
", NEXT P
590 GO TO 350
590 FOR X=0 TO 158: BORDE
R 2: BORDER 6: NEXT X: INPUT ; P
LASH 1;"YOU'VE ACHIEVED THE HIGH
SCORE."; FLASH 0;"INPUT YOUR N
AME IN 9 LETTERS OR LESS..";" LI
NE HS
610 IF LEN HS>=10 THEN GO TO 86
620 LET TS=8
630 FOR X=0 TO 19: BORDER RND*7
FOR U=0 TO 9: NEXT U: NEXT X
640 GO TO 420
650 FOR N=0 TO 2: BEEP 0,2,0; B
BEEP 0,3,5: NEXT N: BEEP 0,3,2; B
BEEP 0,2,5: BEEP 0,3,6: BEEP 0,2,
7: BEEP 0,2,6: BEEP 0,2,5: BEEP
0,2,4
660 RETURN
670 RESTORE 680: FOR X=0 TO 55:
READ x: POKE USR "a"+x,x: NEXT
X: RUN
680 DATA 64,135,136,243,243,136
135,64,2,225,17,267,267,17,225,
2,24,6,13,18,146,8,170,73,254,19
2,169,144,136,128,126,8,127,3,5,
9,17,1,1,6,6,128,128,136,144,168
,192,254,8,1,1,17,9,5,3,127
690 SAVE "SPACE" LINE 670

```

ASTEROIDS

TRAVELLING towards your home planet in a spacecraft you must cross an asteroid belt. As soon as an asteroid appears on your screen, move your laser sights towards it, using the usual cursor keys, and destroy it to avoid hitting it. The quicker you hit an asteroid the bigger your score will be.

Asteroids was written for the 16K Spectrum by Philip Newby of Dobs-cross, Oldham.

```

1 GO SUB 9000: LET INK=5: LET
hi=0
10 GO SUB 5000: GO SUB 1000: L
ET x=14: LET y=15
10 LET lives=6: LET ls="::::::"
"::"
10 LET amount=0
49 LET sf=0
190 LET a=INT((RND*225+160)): L
ET b=INT((RND*72+4))
110 LET m1s=14
200 CIRCLE INK 6,14,15+adts
210 PRINT INK 6,AT 18,2+adts;"c
" INK 0; PAPER 0; "AT 19,22;
INVERSE 1; INK 4,14,1 TU lives)
1 GO SUB 9000: LET INK 2: INVERSE 1;1;lives TO 5
10 BEEP .01,0
215 PRINT AT x,y; INK 8;" "
220 LET x=x+3& INKEY$="7" AND x>2: LE
T Y=y+3& INKEY$="8" AND y>3
& INKEY$="5" AND y>0)
221 LET x=x+& INKEY$=CHR$ 18 AN
D x>14-& INKEY$=CHR$ 11 AND x>2
& LET y=y+& INKEY$=CHR$ 9 AND y<3
& INKEY$=CHR$ 8 AND y>0)
240 LET adts=radis-1
250 IF ATTR(x,y)>6 AND (& INKEY$#
="0" OR INKEY$=CHR$ 12) THEN FOR

```


Can you rise from the void
to meet the challenge of the

Maziacs



HAIL THE HERO

The most ingeniously animated little fellow ever seen on a Spectrum screen. Running in all directions fighting, blinking, tapping his feet and sitting down for a well earned rest.

MEET THE MAZIACS

Correction! DON'T meet the Maziacs. Herds of nasty spidery beetly things with long hairy legs and lethal jaws.

MANAGE THE MAZE

And what a maze - Full of Maziacs, Food, Swords, Prisoners, and a endless succession of dead ends and false trails. But don't despair - you have lots of help in your search for a single box of treasure buried deep in the maze of heavily defended passageways.

NOBLE THE NASTIES

A top Hollywood stunt man was specially flown in to stage the numerous fight sequences needed to defeat the evil guardians of the treasure.

HEAD FOR HOME

Face a return journey with a burden of treasure and unable to carry a sword.

FEATURES

MACHINE CODED COLOURFUL HIGH RES GRAPHICS · PAGE SELECT INSTRUCTIONS, INFORMATION, KEY CHARACTERS · 100 LEVELS OF MAZE · 100 LEVELS OF GAME · KEMPTON TYPE JOYSTICK OPTION · LEVELS OF DIFFICULTY OPTION · STRATEGY PLANNING VIEWS OF MAZE DURING THE GAME · COMPLETELY NEW · RANDOM MAZE FOR EVERY GAME

This game must be
seen to be believed.
One of the best uses
of Spectrum in all
aspects that I have seen.

HOME COMPUTING WEEKLY
27 SEPTEMBER 1983

Available from BOOTS, W.H. SMITH, LASKY'S, SPECTRUM, JOHN MENZIES and good computer software stockists throughout the UK or direct for only £6.95 + 50p post and packing.

DK Tronics Ltd., Unit 6, Shire Hill Industrial Estate, Saffron Walden,
Essex CB11 3AQ. Telephone: (0799) 26350 (24 hrs) 5 lines

dktronics

SPECTRUM

DUAL FUNCTION
JOYSTICK INTERFACE
£13.95 INC



WHY PAY £35 FOR 2
INTERFACES WHEN YOU CAN
BUY OUR DUAL INTERFACE FOR
JUST £13.95 INC.

FEATURES

- ★ Compatible with any software that lists the Kempston Joystick.
- ★ Compatible with any software that uses cursor keys.
- ★ Compatible with most Psion/Melbourne House games e.g. Terror Daktil, Horace Goes Ski-ing etc.
- ★ Allows the use of Atari/Le Stick type joystick.
- ★ Eight directions can be programmed in simple basic.
- ★ Free draw programme and full instructions supplied.

STANDARD INTERFACE FEATURES

Same as Dual Interface

- ★ But only compatible with any software that lists the Kempston Joystick.

ZX-81/SPECTRUM

LOADING PROBLEMS SOLVED WITH

The Coder as reviewed in the Sinclair User
August '83

£9.95 INC

DUAL INTERFACE £13.95 INC

STANDARD INTERFACE £10.95 INC

£1 discount if joystick ordered with any interface
e.g. Dualift & Joystick £19.45 INC

Send Cheques/P.O. to:

JILES ELECTRONICS

48 Parkway, Chellaston, Derby DE7 1GZ. Tel: (0332 703892)

Overseas orders add £2.00

LYNDENHURST LTD

Any Spectrum

MAGIC WORM

£4.95

Accept the challenge of guiding Magic Worm on his journey to the secret cavern. Use your skill and nerve to overcome the many obstacles you will meet along the way. Complete the dangerous journey into the cavern and overcome the final challenge of the bottomless pit and the game is yours!

Please send cheques/P.O.'s/cash to

LYNDENHURST LIMITED,
38 ASHLEY ROAD, LONDON N19 3AF

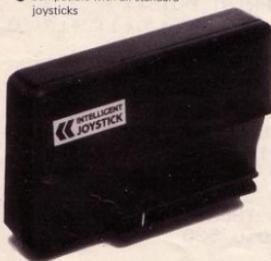
Overseas orders £5.95 per cassette.

At last... A joystick that works!

Cambridge Computing bring you the first **programmable** joystick~ at a price you can afford.

Interface

- 1k on board memory
- Own rear edge connector — for printers etc..
- Compatible with all standard joysticks



Joystick

- Self centring
- 8 Directional microswitched action
- 2 independent fire buttons

The
intelligent
joystick

Tape

- Easy to use program enables the interface to work on **ALL** software
- Keeps a record of all your games — so you only need to tell it about each game once!



Please send me:

Joystick, Interface & Tape at £29.90

Interface & Tape at £24.00

Joystick only at £7.00

Name

Address

For Spectrum

SP11

I enclose cheque/postal order for £.....

..... made payable to Cambridge Computing Limited.

CAMBRIDGE COMPUTING

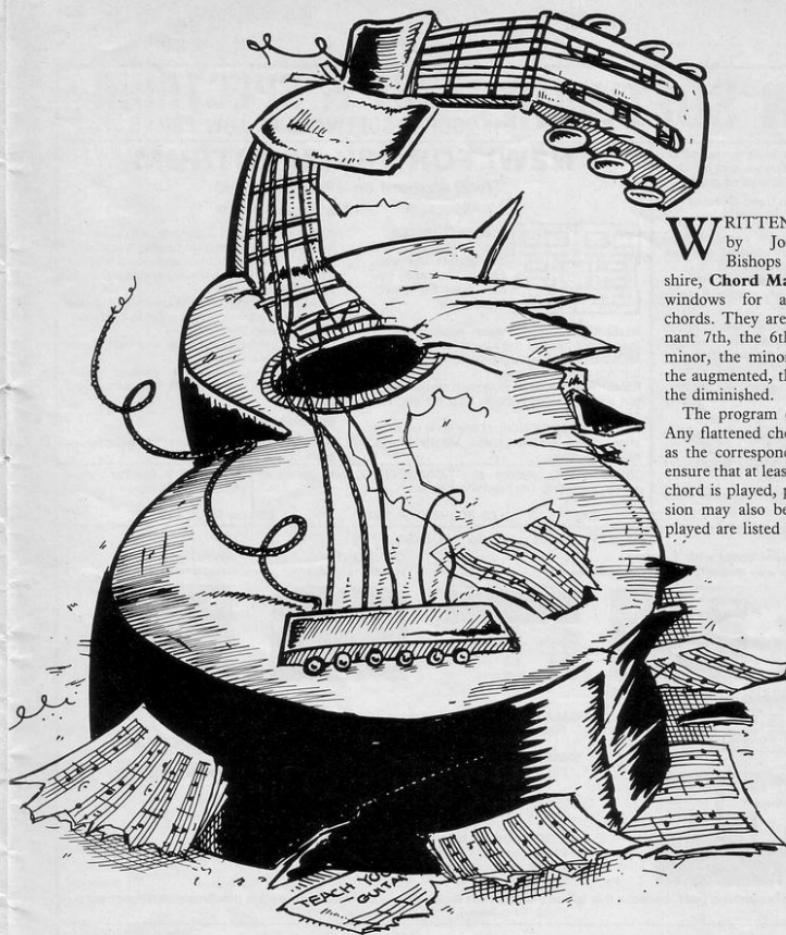
40-42 Hobson Street Cambridge CB1 1NL Telephone 0223 322905

CHORD MASTER

```

10 REM ***GET STRING VARIABLES
20 REM PRINT INSTRUCTIONS *****
30 REM ***PRINT CHORD WINDOW****
40 GOSUB 990
50 REM ***SET CAPU POSITION (C)
60 GOSUB 660
70 REM ***INPUT OF CHORD ***
80 GOSUB 670
90 REM ***EVALUATE P$ TO GIVE C
HORD**
100 GOSUB 480
110 REM ***INSERT FINGER POSITION
NS**
120 GOSUB 260
130 REM ***CLEAR CHORD WINDOW****
140 GOSUB 170
150 IF S$="M" THEN GOTO 50
160 GOTO 70
170 REM ***CLEAR CHORD WINDOW****
180 FOR J=1 TO 11
190 IF C$=0 OR S$="M" THEN PRINT
AT J,2," "
200 IF C$>0 AND S$="N" THEN PRIN
T AT J,2,"(2*$h)"
210 NEXT J
220 GOSUB 990
230 PRINT AT 16,0;R$
240 IF S$="M" THEN PRINT AT 14,
0;R$
250 RETURN
260 REM ***INSERT FINGER POSITION
NS**
270 FOR J=1 TO 6
280 IF J=1 OR J=6 THEN LET K$=E
$(C$2+1 TO 36)
290 IF J=2 THEN LET K$=B$(C$2+1
TO 36)
300 IF J=3 THEN LET K$=G$(C$2+1
TO 36)
310 IF J=4 THEN LET K$=D$(C$2+1
TO 36)
320 IF J=5 THEN LET K$=A$(C$2+1
TO 36)
330 FOR I=1 TO 36-L$2 STEP 2
340 IF C$(I)=K$(I) TO I+1) OR (I
-2)=K$(I) TO I+1) OR (I-3)=K$(I) T
O I+1) OR (I-4)=K$(I) TO I+1) THE
N GOSUB 430
350 NEXT I
360 NEXT J
370 PRINT AT 19,0;"FOR NEXT CHO
RD INPUT "N"";AT 20,0;"TO MOVE
CAPU INPUT "M""
380 INPUT S$
390 IF S$="N" OR S$="M" THEN GO
TO 410
400 GOTO 380
410 PRINT AT 19,0;P$;AT 20,0;R$
420 RETURN
430 REM ***PRINT DOTS**
440 PRINT AT (J$2-1),(1$2+1);"
"
450 IF (I$2+1)<8 THEN GOTO 470
460 LET I=36-C$2
470 RETURN
480 REM ***EVALUATE P$**
490 FOR J=1 TO 12
500 IF X$=3 THEN IF NS(J,1)=W$(J
) THEN GOTO 530
510 IF X$=4 THEN IF NS(J,1)=W$(J,1
) THEN GOTO 530
520 NEXT J
530 DIM C$(4,2)
540 LET C$(1)=NS(J,1)
550 IF P$(1)="A" THEN LET C$(2)
=NS(J,4)
560 IF P$(1)="B" THEN LET C$(2)

```



WRITTEN for the 16K ZX-81 by Jon McNamara of Bishops Stortford, Hertfordshire, **Chord Master** will draw chord windows for around 1,000 guitar chords. They are the major, the dominant 7th, the 6th, the major 7th, the minor, the minor 7th, the minor 6th, the augmented, the augmented 7th and the diminished.

The program does not handle flats. Any flattened chord should be entered as the corresponding sharp chord. To ensure that at least one inversion of each chord is played, part of a second inversion may also be shown. Notes to be played are listed beneath the window.

```

=H$(J+3)
570 IF P$(2)="C" THEN LET C$(3)
=H$(J+7)
580 IF P$(2)="D" THEN LET C$(3)
=H$(J+8)
590 IF P$(2)="E" THEN LET C$(3)
=H$(J+6)
600 IF P$(3)="F" THEN LET C$(4)
=H$(J+10)
610 IF P$(3)="G" THEN LET C$(4)
=H$(J+9)
620 IF P$(3)="H" THEN LET C$(4)
=H$(J+11)
630 REM **PRINT CHORD NOTES**
640 PRINT AT 19,0;R$#
650 PRINT AT 16,4;W$";...";C$(1));";C$(2));";C$(3));";C$(4)
660 RETURN
670 REM **INPUT OF CHORD**

```

```

680 PRINT AT 19,0;"PLEASE INPUT
CHORD NAME... "
690 INPUT W$#
700 IF W$#=" " THEN GOTO 6
90
710 PRINT AT 19,0;R$#
720 REM ** SET P$ AS NOTE POINT
ER**#
730 LET P$="AC "
740 LET X=3
750 IF W$(2)="*" THEN LET X=4
760 FOR J=1 TO 7
770 IF W$(J)="M" THEN LET P$(1)=
="B"
780 IF W$(J)="7" THEN LET P$(3)=
="F"
790 IF W$(J)="6" THEN LET P$(3)=
="G"
800 IF J+2>7 THEN GOTO 840
810 IF W$(J TO J+2)="AUG" THEN

```

ORWIN SOFTWARE: ZX81 & SPECTRUM

SUPER SOFTWARE AT LOW PRICES

"Michael Orwin has built a reputation for value-for-money software and his Cassette 4 offers quantity as well as quality."

Sinclair User, October '82

"If each game was on a separate tape and selling for £5 each I would still recommend them. But all on one for £5...! This sort of value for money just has not been seen before on any personal computer."

"Without sounding pushy I would like to conclude this review by saying — if you have a ZX-81 and like games, then you should buy Michael Orwin's cassette 4."

2 extracts from *ZX Computing*, Oct/Nov '82

"Eight games, including an excellent version of the Scramble arcade game... Easy to operate, graphically impressive and good value for money."

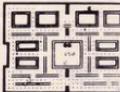
The Times, Saturday 11th December 1982
(about Cassette 4)

NEW! FOR 16K SPECTRUM

(will also run on 48K Spectrum)

CASSETTE A

Ten programs for £6



GHOST GOBLER

Eat the ghosts before the ghosts eat you. Eat a star and you can chase the ghosts for a while.

ALIENKILL Control lasers, rockets and a force-field to stop the aliens from landing.

MOUSETRAP Trap the mouse in the corner but not anywhere else.

REVERSI A game of skill with simple rules but sophisticated tactics. Play against the computer.

LASER DEFENCE Control the laser sight to shoot down the alien ships. Machine code sound routines.

CASSETTE 1, eleven programs (including 7 in machine code) for 1K ZX81 £3.80

CASSETTE 2, ten games in Basic for 16K ZX81 £5

CASSETTE 3, eight programs (including 1 in machine code) for 16K ZX81 £5

TANK BATTLE For 2 players simultaneously or play against the computer. Each player has 2 rotate controls and move and fire controls. The tanks fire steerable missiles.

PHOEBUS A puzzle.

BLACKSPOT Gobble the stars and avoid running into black spots created by crossing your own path.

CUBE Manipulate a cube any size from 2 x 2 x 2 to 7 x 7 x 7.

MINEFIELD Collect the crowns while avoiding the mines and the electrified fence.

plus an extra ...

GRAPHIC DEMO Did you know your Spectrum could do all this?

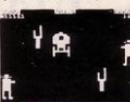
ZX-SCRAMBLE (machine code) with 3 stages. Bomb and shoot your way through the fortified caves.



CASSETTE 4 8 games for 16K ZX81 £6

GUNFIGHT (machine code)

INVADERS (machine code)



FUNGLOID
THE FUNGLOID ARE GROWING AND WHEN THEY REACH THE SKY THEY PRODUCE DEADLY SPORES. YOU MUST DESTROY THEM AND OVERSTONED TO DESTROY THE FUNGLOID BY DROPPING ANTI-FUNGUS BOMBS ON THEM.

PROJECTILE
PRESS NEARLY ANY KEY TO SPREAD PROJECTILE SPACED 10 METERS. FUNGLOID BOMB PROJECTILE BOMB STORE BOMB STORE

GALAXY INVADERS (machine code)

Fleets of swooping and diving alien craft to fight off.

SNAKEBITE (machine code)

Eat the snake before it eats you. Variable speed. (very fast at top speed).

LIFE (machine code)

A ZX81 version of the well known game.

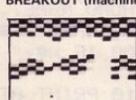
3D TIC-TAC-TOE (Basic)

Played on a 4 x 4 x 4 board, this is a game for the brain. It is very hard to beat the computer at it.

7 of the 8 games are in machine code, because this is much faster than Basic. (Some of these games were previously available from J. Steadman).

CASSETTE 5 8 games for 16K ZX81 £6

BREAKOUT (machine code)



PLANETOIDS (machine code)

Rotate, move, fire and hyperspace controls. Wide range of choice of speed and difficulty.

DODGEMS (machine code)

Dodge the computer's car while eating the dots.

DRAUGHTS (machine code)

Three skill levels.

MERCHANT (Basic)

Make your fortune on trading voyages in the Mediterranean and beyond.

"New polish on old favourites... the quality of the software and the smooth action displays created on the screen make these programs worthwhile for anyone who has a ZX-81 and plays games using it."

"Most of the games include well-presented instructions which make them easier to play. It is pleasant to see that Orwin's kind of quality is available again."

From review of Cassette 5 in *Sinclair User*, September 1983.

BYTE-MAN (machine code)
(previously available from Mindseye)



SPACE RESCUE (machine code)
(previously available from Mindseye)



BLITZ (machine code)



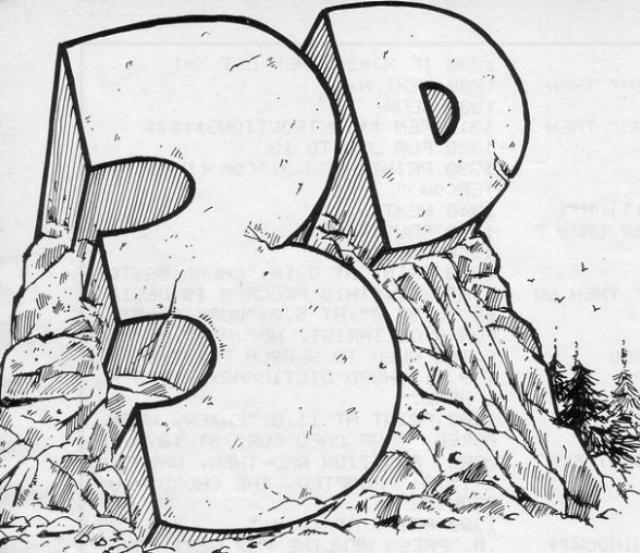
7 of the 8 games are in machine code because it is much faster than Basic.

Please make your cheques payable to **ORWIN SOFTWARE**.

ORWIN SOFTWARE, Dept OSP, 26 Brownlow Road, Harlesden, London NW10 9QL.
ZX81 and SPECTRUM SOFTWARE WANTED (Royalties or buy outright)

Trans Cash For orders placed at the post office
505 4362





3-D LETTERS

THREE-DIMENSIONAL LETTERS, written for the Spectrum by P Monger of Reading, Berkshire draws large, three-dimensional letters on the screen. Only seven letters can be printed at once but the routine can be used again several times without clearing the screen, allowing impressive title pages to be created.

```

100 CLEAR 59003
110 LET ST-(234*256): PRINT AT
8,16;"POKEs LEFT."
120 FOR I=16 TO 15616+255*8
130 LET A$="" : POKE 16384,PEEK
140 GU SUB 200
150 PRINT AT 19,10;15616+255*8
151 "
160 POKE ST,VAL (<"BIN "+A$)
170 LET ST-ST+
180 NEXT I
190 POKE 23087,233: STOP
200 FOR J=7 TO 0 STEP -1: IF PO
INT (<J,175)=1 THEN LET A$=A$+"1"
210 GU TO 220
220 LET A$=A$+"0"
230 NEXT J: RETURN
230 POKE 23087,233

```

ONCE THIS program is RUN it will reverse the entire character set, excluding user-defined graphics. The new character set can be called upon at any time, even after NEW has been pressed, by entering POKE 2307,233.

Mirror Characters was written for the 48K Spectrum by Graham Walkden of Banchory, Kincardineshire.

```

140 BORDER 7: INK 0: PAPER 7
150 LET A$="3D-WORD": LET P=36
150 PRINT AT 16,7;"# 1983 P. Mon
9em": GO TO 100
160 PRINT PAPER 1: INK 7: AT 13,
8," Now you can write your own
3D words"
170 "
180 PRINT "" PAPER 0: INK 7;"#
190 Please follow the prompts."
200 PRINT INK 7: PAPER 2: FLASH
210 AT 21,10;"Press any key"
220 PAUSE 0: CLS
230 INPUT "Pixels from top < (i
sp>#8 Pixels)":#
240 INPUT "Letters <7 max>": J#
250 IF LEN A$>7 OR LEN A$<1 THEN B
260 EEP 1,-36: GO TO 90
270 LET A$=LEN A$: PRINT INK 7:T
280 T,21,0,15
290 FOR F=0 TO 8*8-1: FOR N=0 T
0,7
300 IF POINT (F,N)=0 THEN GO TO
160
310 PLOT #*4,n#4+135#-: DRAW 4,
320 DRAW 0,4: DRAW -4,0: DRAW 0,-
330 DRAW 3,0: DRAW 0,2: DRAW -2,0
340 DRAW 0,-1: DRAW 2,0: DRAW -2,-
350 "
360 DRAW 5,5: DRAW 0,4: DRAW 0,-
370 DRAW 4,0: DRAW 0,4: DRAW 0,-
380 DRAW -5,-5
390 DRAW 0,4: DRAW 5,5: DRAW -4
400 DRAW -5,-5
410 NEXT N: NEXT F
420 IF A$="3D-WORD" THEN PAUSE
430 GO TO 40
440 INPUT "Write some more ? <9
/n>": J#
450 "
460 IF A$="n" THEN STOP
470 INPUT "Clear the screen ? <
210 IF C$="y" THEN CLS
220 GO TO 80

```

MIRROR



CHARACTERS

COMPUTERTUTOR

Do your programs owe you a living?
Spectrum, Dragon, Vic and BBC early learning games wanted.
Write to: Computertutor, P.O. Box 3, St. Neots,
Huntingdon, Cambs. PE19 3NW Telephone: (0480) 213969

Spectrum — ZX-81

Overheating? Noisy? Keyboard runs hot?
Problems solved with the P.R. adapter. No soldering, no rewiring, just plug in place. £8.95
please state model

Checkup P.R.
Modern Electronics
14 Busby Close
Doncaster
South Yorks DN4 6EL

Also available over the counter from
Modern Electronics, Market Road, Doncaster

**P
R
E
S
E
N
T
E
R**
"How-To" Routines
48K and 16K
SPECTRUM
Pie Charts, Barcharts,
Histograms, Graphs, Mazes
£4.85 P&P to:
WALSHWARE
10 Busby Close, Heron Park,
Buckingham

IMPORTANT NOTICE

Unfortunately an error was published in Softek's August Advertising. Softek does not guarantee a full refund should a program fail to load, however, it does guarantee a replacement cassette.

Dr T. Langdell
SOFTEK
INTERNATIONAL LTD

ZX-81 REPAIR SERVICE

At last no need to wait for weeks, send your faulty ZX-81 for a fast reliable repair. We will repair any ZX-81 kit or Ready Built Unit.

Please describe the fault briefly and send a cheque/postal order to:

NEXT COMPUTER SYSTEMS
Dept SP
88 Harvest Road
Englefield Green
Surrey TW20 0QR

Only £15.95 + p&p £1.75
fully guaranteed

MAZEMAN For the LYNX....



SPECTROID STORM: A fast action graphic space game. You dodge asteroids and zep aliens in this cosmic battle for the stars. These are bonus points to be scored for the sharp shooter with the speedy ship. The whole of hyperspace lies waiting for you when you pile on the super thrust.

Spectrum £4.45

NEW

FORTH: A full implementation allowing the full range of sound and colour. The only Spectrum package endorsed by the FORTH Interest Group and the one used by Sinclair User in their series on FORTH. '... well worth the price ... for a speedier Spectrum' *Personal Computer* ...

Spectrum 14.95

THE WIZARD'S WARRIORS: A fast moving game featuring continuous sound effects and arcade quality graphics.

Spectrum £4.95

'a well written graphics adventure!' *Home Computing Weekly*

ADVENTURE ONE: With save game facility. 'remarkably good version ... well worth the money.' *Sinclair User*

Spectrum £6.95

ZX81 £5.95

MAZEMAN: NOW AVAILABLE FOR THE LYNX £4.95 A fast action machine code game. '... very accurate and fast.' *Which Micro*

Spectrum £4.95

ZX81 £4.45

CHESS: Ten levels of play. Good graphic display. '... in a class of its own.' *Your Computer* ...

Spectrum £6.95

ZX81 £5.95

INVADERS: Very fast m/e action. Includes mystery ship and increasingly difficult screens.

Spectrum £4.45

ZX81 £4.45

ABERSOFT DEPT SP

7 MAES AFALLEN, BOW ST, DYFED, SY24 5BA



Dealer enquiries are welcome

24hr Ansaphone
0970 828851

H Hewson Consultants

Please send me: (tick box) 40 Best Machine Code Routines £5.95 20 Best Programmes £5.95

Please debit my Access/Visa Account No. _____

Signature _____

Name _____

Address _____

Please make cheques/postal orders payable to
Hewson Consultants. Allow up to 14 days for delivery.

H Post to: Hewson Consultants, 60A St Mary's Street,
Wallingdon, Oxon OX10 0EL Tel (0491) 36307



SP11

JET BOAT

ICK-UP the jellyfish by steering your boat across them, using keys 5, 6, 7 and 8. Hitting your wake, the beach at the edge of the sea, or the black islands will cause you to die. When you complete a screen your score will be shown. Press any key to begin the next screen.

Jet Boat was written for the 16K ZX-81 by Jonathan Currey of south-east London.



```

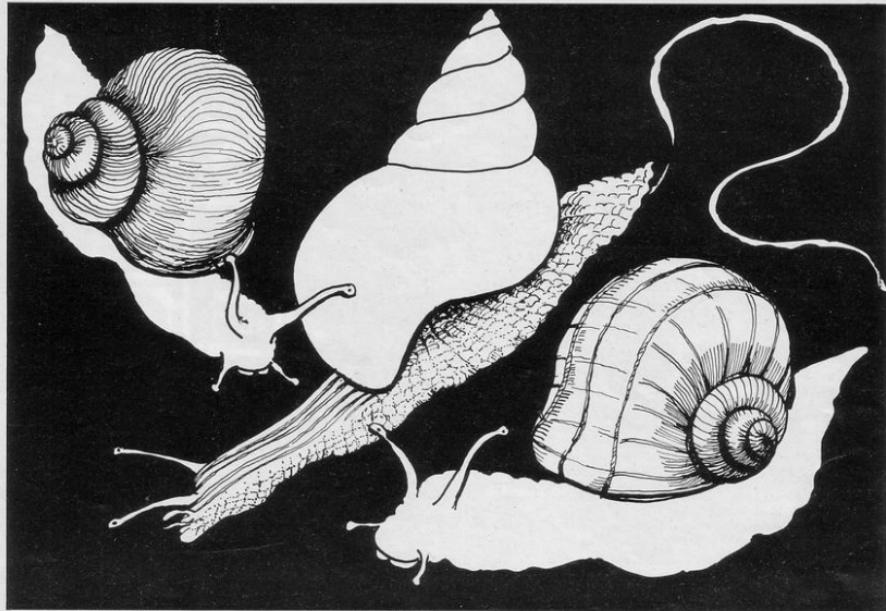
2 POKE 16533,0
3 LET HT=0
10 LET DF=PEEK 16396+256*PEEK
16397)
14 LET E=0
15 PRINT TAB 4;"PRESS ANY KEY
TO START."
16 IF INKEY$="" THEN GOTO 16
17 FAST
18 LET T=0
19 LET N=INT (RND*5)+10
20 PRINT AT 0,0;"(32*i$P)"
25 FOR I=1 TO 20
30 PRINT "(i$P)
(i$P)"
35 NEXT I
43 PRINT "(32*i$P)"
45 PRINT AT 21,6;"best scoreL"
47 HT
46 FOR I=1 TO N+INT (D/10)
47 PRINT AT INT (RND*19)+1,INT
(RND*29)+1;"(i$P)"
48 NEXT I
49 SLOW
50 FOR I=1 TO N
55 PRINT AT INT (RND*19)+1,INT
(RND*29)+1)
56 IF PEEK (PEEK 16399+256*PEE
K 16399)=23 THEN GOTO 55
57 PRINT "*"
60 NEXT I
80 LET P=DF+(33*19+31)
100 LET D=-33
141 IF INKEY$="5" THEN LET D=-1
142 IF INKEY$="6" THEN LET D=33
143 IF INKEY$="7" THEN LET D=-3

```

```

144 IF INKEY$="8" THEN LET D=1
145 IF PEEK (P+D)=23 THEN GOTO
300
150 IF PEEK (P+D)>0 THEN GOTO
200
160 LET P=P+D
170 POKE P,136
180 GOTO 110
200 LET H=PEEK (P+D)
201 CLS
202 LET E=E+
203 PRINT AT 6,0;"YOU CRASHED I
NTO J("A BLOCK." AND H=128);("Y
OUR TRAIL." AND H=136)
205 IF E>HT THEN PRINT AT 8,3;""
WELL DONE. A NEW HIGH SCORE"
210 IF E>HT THEN LET HT=E
220 PRINT AT 10,5;"YOU GOBBLED
";E;" FISH"
230 GOTO 14
300 LET T=T+1
305 IF T=N THEN GOTO 400
310 GOTO 160
400 POKE P+D,136
401 CLS
405 LET E=E+
410 PRINT AT 8,0;"YOU HAVE NOW
GOBBLED ";E;" FISH"
415 PRINT "TRY A SLIGHTLY HARDE
R SCREEN."
417 PRINT ....
420 GOTO 15

```



THESE HAVE been requests for two-player games. William Hoyland of Surbiton, Surrey has supplied one such game for the 16K ZX-81.

Player one attempts to move the snail

from the left of the screen to the right, while the snail of player two attempts to cross from right to left.

Both players must avoid the deadly slug pellets and the slimy snail trail of the other.

SNAIL TRAIL

```

15 GOSUB 5000
26 LET R=10
37 LET B=10
44 LET S1=9
50 LET S2=8
66 DIM R$(20,30)
71 FOR Z=1 TO 30+S1+S2
87 LET X=INT (RND*19)+1
95 LET Y=INT (RND*20)+5
109 PRINT AT X,Y;"<91>"
118 LET A$(X,Y)="<91>"
128 NEXT Z
130 LET D=1
140 LET E=30
155 PRINT AT R,D;"0"
164 LET A$(R,D)="<0"
167 LET A$(E,D)="<0"
176 LET C=PEEK 16421
180 LET B$=B$+((C=212 OR C=211 OR C=221) AND B$+X))((C=191 OR C=197 OR C=189) AND B$+121)
198 LET A$(R,D,X)="<" AND A$(B,E)="""
199 LET A$(R,D,X)="" AND A$(B,E)="""
221 OR C=189) AND R$+121)
208 LET D=D+1
218 LET E=E-1
219 IF R$=91 THEN GOTO 3000
217 IF A$(R,D,X)="" AND A$(B,E)="""
220 THEN GOTO 3000
224 IF A$(R,D,X)="" THEN GOTO 1
229 IF A$(B,E)="" THEN GOTO 2
234 PRINT AT R,D;""
239 PRINT AT B,E;"<""
260 GOTO 150
1908 FOR Z=1 TO 20
1918 PRINT AT R,D;"<1>""
1928 PRINT AT R,D;">""
1938 NEXT Z
1935 CLS

```

```

1840 PRINT "THE GOOD LOOKING ONE
ON THE RIGHT WINS","
1850 LET S2=S2+1
1870 PRINT "<-->;S1,TRB 29-LEN<
STR$ S2>;S2>-->"
1875 IF S2=10 THEN GOTO 6000
1877 PRINT AT 10,10;"TOUCH A KEY
"
1880 IF INKEY$="" THEN GOTO 1800
1890 CLS
1100 GOTO 60
2000 FOR Z=1 TO 20
2010 PRINT AT B,E;"<1<>"
2020 PRINT AT B,E;"<>"
2030 NEXT Z
2040 CLS
2050 PRINT "THE GOOD LOOKING ONE
ON THE LEFTWINS","
2060 LET S1=S1+1
2070 PRINT "<-->;S1,TRB 29-LEN<
STR$ S2>;S2>-->"
2075 IF S1=10 THEN GOTO 6000
2077 PRINT AT 10,10;"TOUCH A KEY
"
2080 IF INKEY$="" THEN GOTO 2000
2090 CLS
2100 GOTO 60
3000 CLS
3818 PRINT TAB 6;"NOBODY WINS GE
ENGS","
3820 GOTO 2070
4000 SVAE "SNAIL TRAIL"
4010 RUN
5000 LET B$="***TOUCH*AKEY*****"
5005 *****H1. THE FOLLOWING
GAME IS CALLED SNAIL TRAIL AND I
T REQUIRES TWO PLAYERS TO NAVIGA
TE THEIR SPEEDY SNAILS ACROSS AN
AREA OF LETHAL SLUG PELLETS WHI
LST AVOIDING THEIR OPPONENTS DEA
DLY TRAILS. PLAYER ONE USES THE K
EYS Q AND A TO MOVE UP AND DOWN.

```

```

PLAYER TWO USES KEYS U AND L.*****
*****GODLUCK*****
5010 PRINT AT 9,7;"<98-16*99-95>
5015 RT 10,7;"<98>*#TOUCHAWAKEY****"
5017 AT 11,7;"<98-16*98-95>
5020 IF INKEY$="" THEN GOTO 5020
5030 FOR R=1 TO LEN B$-15
5040 PRINT AT 10,R,B$RA TO R+15>
5050 FOR P=1 TO 3
5060 NEXT R
5070 NEXT A
5080 FOR R=1 TO 100
5090 NEXT A
5100 CLS
5110 RETURN
6000 PRINT
6010 PRINT "AND THE OVERALL WINN
ER","
6020 PRINT "WITH AN INCREDIBLE L
EAD OF ","
6030 IF S1>S2 THEN PRINT S1-S2
6040 IF S2>S1 THEN PRINT S2-S1
6050 PRINT
6060 PRINT "IS... "
6070 PRINT
6080 PRINT "THE DEVILISHLY FIEND
ISH... "
6090 PRINT
6100 IF S2>S1 THEN PRINT "PLAYER
ON THE RIGHT","
6110 IF S1>S2 THEN PRINT "PLAYER
ON THE LEFT","
6120 PRINT
6130 PRINT "TOUCH A KEY TO PL
AY AGAIN"
6140 IF INKEY$="" THEN GOTO 6140
6150 CLS
6160 RUN

```

JUST AROUND THE CORNER, A NEW



BLACK CRYSTAL

The Classic, six program adventure game for the 48K Spectrum and 16K ZX-81 computers. No software collection is complete without it.

"BLACK CRYSTAL is an excellent graphics adventure and a well thought out package" (Sinclair User, April '83)

"BLACK CRYSTAL has impressed me by its sheer quantity and generally high quality of presentation. I am afraid I have become an addict" (Home Computing Weekly, April '83)

SPECTRUM 48K 180K of program in six parts . . . only £7.50

ZX-81 16K over 100K of program in seven parts . . . only £7.50

Why pay more for less of an adventure?



THE ADVENTURES OF ST. BERNARD

An exciting, fast moving, machine code, arcade game where you guide your intrepid St. Bernard through the perils of the icy wastelands to rescue his Mistress from the clutches of the abominable snowman. 48K Spectrum £5.95.



THE CRYPT
written by Stephen Renton

Prepare yourself for the many challenges that shall confront you when you dare to enter "THE CRYPT".

You will battle with giant scorpions, Hell spawn, Craners, Pos-Negs and if you are unlucky enough — the Dark Cyclops in this arcade style adventure.

Available now for the 48K Spectrum @ £4.95



ZX-81 COMPENDIUM

Alien Intruder, Wumpus Adventure, Numerology, Hangman, Hieroglyphics, Movie Mogul.

The ideal software package for all 16K ZX-81 owners. Six major programmes on two cassettes for only £6.50.

"Alien Intruder Hieroglyphics — Both programs make good use of graphics and words to make a very entertaining package" (Sinclair User, Aug '82)

"Alien/Hieroglyphics/Wumpus Movie — A varied mix from Carnell, all featuring imaginative responses and graphics and all of them good games for all ages (Hieroglyphics is particularly good for children)." (Popular Computing Weekly, Aug '82)



STARFORCE ONE

Take on the robot guardians of the central computer in a superbly stylised three dimensional battle game. 48K Spectrum £5.95.



THE DEVIL RIDES IN

I uttered the last incantations as the clock struck thirteen. All fell silent except for a faint rustling in the corner. From out of the shadows they came, all Hell's fury against me but I was not defenceless until the Angel Of Death, astride a winged horse, joined the battle. Avoiding his bolts of hell fire, I took careful aim. My chances were slim, but if my luck held . . . 48K Spectrum £5.95.

(Fast moving, machine code, all action, Arcade game)

RANGE FROM CARNELL SOFTWARE



COMING SOON

"THE WRATH OF MAGRA"

The first born has been destroyed. The Black Crystal of Beroth has been banished. The alliance of Evil has been defeated by the armies of Lord Fendal. So ends the Third Age. Now we invite you to write your name in the history of the Fourth Age of the Third Continent.

You will meet friends and enemies, old and new, in the long awaited sequel to Volcanic Dungeon. Using high resolution graphics and combining the best qualities of "Black Crystal" and "Volcanic Dungeon", we will allow you to become part of this tale of revenge.

"The Wrath Of Magra" comes as three, 48K programs on cassette, boxed with instruction manual and book detailing the history of the Third Continent and the many spells you will be using throughout the game.

NOTE: "The Wrath Of Magra" is a complete adventure. You need not buy "Volcanic Dungeon" or "Black Crystal" to play it.

Available through most good computer stores or direct from:
Carnell Software Ltd, North Weylands Industrial Estate, Molesey Road, Hersham, Surrey KT12 3PL.
Dealers: Contact us for your nearest wholesaler.



CARNELL SOFTWARE LTD

HEAT-LOSS CALCULATIONS

HEAT-LOSS CALCULATION, written by M K Payne of north London for the 16K ZX-81, can be used to produce an accurate heating requirement for a room, area or complete property. You are asked to input the name of a structure, its length, width, height, area or volume, air changes, "U" value and the difference in temperature between one side and the other in Centigrade.

The heat loss in watts will then be calculated. For example, a window of one metre by two metres, with a "U" value of 5.6 and temperatures of minus one on the outside and 21.1 on the inside would produce a heat loss of 247.5 watts. A reference list of "U" values is included in the program.



```

5 HAS BEEN FULLY ENTERED, INPUT
10 LET LN=3 "DONE" TO OBTAIN HEAT LOSS S
15 LET RL=0
20 LET AV=0
25 LET HL=0
40 LET THL=0
50 LET T=0
100 LET R=LEN WID HEI AV/
R U TO LOSS"
110 LET R= CTH TH GHT VOL
U VOL /92.3C (W)
200 PRINT AT 0:11;"HEAT LOSSES"
210 PRINT TAB 11;"(11X07)"
220 PRINT "INSTRUCTIONS"
230 PRINT
240 PRINT "ENTER STRUCTURE REF
ERENCE IN NOMURE THAN TWO LETTER
S/FIGURES"
250 PHASE 250
260 PRINT
270 PRINT "ENTER MEASUREMENT O
F 1METRE FURLENGTH/WIDTH/HEIGHT
EVEN WHEN NOT OTHERWISE APPLIC
ABLE"
280 PAUSE 300
290 PRINT
300 PRINT "ENTER 1 FOR A/C/H W
HEN INPUT ISFOR STRUCTURE"
310 PAUSE 250
320 PRINT
330 PRINT "WHEN A ROOM OR AREA

```

```

400 PRINT AT 21.0;"INPUT STRUCT
URE"
410 INPUT S$.
415 IF S$="DONE" THEN GOTO 1000
416 IF S$="FINISHED" THEN GOTO
2000
420 PRINT AT 21.0;"INPUT LENGTH
IN METRES"
430 INPUT L
440 PRINT AT 21.0;"INPUT WIDTH
IN METRES"

```

```

450 INPUT W
460 PRINT AT 21.0;"INPUT HEIGHT
IN METRES"
470 INPUT H
480 LET AVL=WWW
490 PRINT AT 21.0;"INPUT R/C/H
"
500 INPUT V
510 PRINT AT 21.0;"INPUT U VALU
E"
520 INPUT U
530 PRINT AT 21.0;"INPUT TEMP.
IN C (< - IF GRIND"
540 INPUT C
545 PRINT AT 21.0;""
560 LET HL=INT (AVL*V*U*H+5)
570 PRINT AT LN:015$;1TB 3:LN:AT
LN:7:WAT LN:11:H:AT LN:15:AV:R
T:LN:19:V:AT LN:21:U:AT LN:25:G:
AT LN:28:HL
580 LET LN=LN+1
590 IF LN>19 THEN SCROLL
592 IF LN>19 THEN LET LN=19
594 LET THL=THL+HL
595 GOTO 500
600 PRINT AT LN:18;"SUB-TOTAL "
:THL
605 PRINT AT 21.0;""

```

```

1010 LET LN=LN+1
1020 IF LN>19 THEN SCROLL
1030 IF LN>19 THEN LET LN=19
1040 LET T=T+THL
1050 LET THL=0
1060 GOTO 500
1080 CLS
1095 LET US=" U VALU
ES (W-M2C) CONSTRUCTION
SH NOR SEWWIND=04-SINGLEX(WOOD>
3.8 4.3 5.9 -SINGLEX METAL
Y 5.6 5.6 6.7 -DOUBLEX(WOOD>
2.3 2.5 2.7 -DOUBLEX METAL
Y 3.8 3.2 3.5FLLOOR-SOLID:GD:4 EX
P 1.4: -SOLID:GD:2 EX
P 1.07 -WOOD:GD:LINO
P 1.95 -WOOD:GD:CARP
T 0.99 ROOF-TILES, FELT, PL/
B 1.4 1.5 1.6 -ARA + BOARDING
1.3 1.3 1.3 -ARA + GLASS FB
R .49 0.5 .51WALL-SLD:BRICK:PLST
R 2.0 2.1 2.2 -SLD:BRICK:UNSL
D 2.2 2.3 2.4 -CRV:250MM:PLST
R 1.4 1.5 1.6 -CRV:375MM:PLST
R 1.2 1.2 1.2 -CONCRETE:PLSTR
G .95 .47 1.0 -CRV:PLST IN/OU
T .82 .84 .86VENTILATION
6.93

```

```

TO START"
1910 PRINT US
1915 PAUSE 4E4
1920 RETURN
2000 PRINT AT 21,0;"TOTAL HEAT R
ES.=":T;" WATTS"

```



SILLY MOO

CHASE a bionic cow round the farmyard, using cursor keys 5 to 8. The cow is bionic and if she runs off the edge of the screen she will be teleported to another section of the farmyard. As you are not bionic you must avoid the edges of the screen. If

you catch the cow you will be shown to shout "Got you" and if you fail to catch her she will laugh her head off.

Silly Moo was written for the 1K ZX-81 by Michael McRoberts and Kevin Fairclough of Wallasey, Merseyside.

```

10 LET A=5
20 LET B=9
30 LET C=15
40 LET D=1
45 FOR T=0 TO 100
50 PRINT AT A,B;"(1H)MOO":AT C,D;
"(1h)"
60 LET C=C+(A>C)-(A>C)
70 LET D=D+(B>D)-(B>D)
80 IF INKEY#="8" THEN LET B=B+
2
90 IF INKEY#="5" THEN LET B=B-
2
100 IF INKEY#="6" THEN LET A=A+
2
110 IF INKEY#="7" THEN LET A=A-
2
120 IF C>0 OR C>20 THEN LET C=1
0
130 IF D>0 OR D>30 THEN LET D=1
5
135 IF A=C AND B=D THEN GOTO 20
0
140 CLS
150 NEXT T
160 PRINT AT C,D;"(1H)MOO":AT A
,B;"(1h)"
170 STOP
200 PRINT AT A,B;"GOT YOU"

```



PETROL

PETROL CONSUMPTION, written by A Briggs of Bromsgrove, Worcestershire calculates and displays graphically vehicle fuel consumption on the ZX-81. Full instructions are included in the program. When you are asked for the cost of fuel, enter the amount of money spent when the tank was last filled.

```

W 5 GOSUB 3000
10 GOTO 4000
15 DIM NK$6
16 DIM E$6
17 LET N=1
18 LET G=0
20 GOSUB 3000
25 CLS
30 PRINT TAB 10;C$;" MPG"
35 PRINT
40 PRINT TAB 1;"SPEEDO LAST FU
EL!";
45 REM M=SPEEDO LAST FUEL
50 PRINT TAB 24;M
55 PRINT TAB 1;"DATE THIS FUEL
!";
56 INPUT D$#
57 PRINT AT 3,16;" ",TAB 24;D$#
58 PRINT TAB 1;"SPEEDO THIS FU
EL!";
65 REM S=SPEEDO THIS FUEL
70 INPUT S
80 PRINT AT 4,10;" ",TAB 24;S
90 PRINT TAB 1;"GALS AFTER LAS
T FILLED";
95 REM G=TOTAL GALS TO LAST FI
LL
110 PRINT TAB 24;G
120 PRINT TAB 1;"COST OF FUEL,£
.P!";
125 REM C= COST OF FUEL £.P
130 INPUT C
140 PRINT AT 6,18;" ",TAB 24;C
150 PRINT TAB 1;"£.P PER GAL/LI
TRE !")
155 REM L=PRICE PER GAL/LITRE £
160 INPUT L
170 IF L<1 THEN LET L=INT (L/.2
*1000+.5)/1000
180 PRINT AT 7,19;" ",TAB 24;L
190 LET G=G+INT (C/L*100+.5)/10
0
200 PRINT TAB 1;"TOTAL GALS TO
DATE";
210 PRINT TAB 24;G
220 LET X=INT ((S-M)/(C/L)*100+
.5)/100
230 PRINT TAB 1;"MPG/LAST FILL"
;
240 PRINT TAB 24;X
245 LET M=S
250 LET Y=INT ((S-M1)/G*100+.5)/
100
260 PRINT TAB 1;"OVERALL MPG";
270 PRINT TAB 24;Y
280 PRINT
290 FOR U=1 TO 150
295 IF INKEY$="H" THEN LET U=14
0
300 NEXT U

```

CONSUMPTION

```

310 CLS
1010 PRINT AT 21,0;S1;"-----"
-----";S1
1020 PRINT AT 16,0;S1+5;"-----"
-----";S1+5
1030 PRINT AT 11,0;S1+10;"-----"
-----";S1+10
1040 PRINT AT 6,0;S1+15;"-----"
-----";S1+15
1050 PRINT AT 1,0;S1+20;"-----"
-----";S1+20
1060 PRINT AT 0,7;C$;" OVERALL m
PG"
1065 PRINT AT 1,7;"REG NO ";R$
1070 PRINT AT 2,7;"INITIAL MILES
";M1
1080 PRINT AT 3,7;"CURRENT MILES
";S
1090 PRINT AT 4,7;P$;" TO ";D$
2000 LET E(N)=(((INT (Y+.5))-S1)
*)2
2010 IF E(N)>40 THEN LET E(N)=40
2012 IF E(N)<0 THEN LET E(N)=0
2015 FOR N=1 TO N
2020 FOR H=0 TO E(N)
2030 PLOT N+3,H
2035 NEXT H
2040 NEXT N
2100 FOR U=1 TO 200
2105 IF INKEY$="H" THEN LET U=19
0
2110 NEXT U
2120 CLS
2130 GOTO 8000
3010 CLS
3020 PRINT AT 5,0;"to HOLD DISPLAY PRESS ""H"""
3030 FOR U=1 TO 75
3040 NEXT U
3050 CLS
3060 RETURN
4000 PRINT "car overall Petrol consumption"
4010 PRINT
4020 PRINT "**THIS PROGRAMME CALCULATES AND GRAPHICALLY DISPLAYS A CAR'S OVER-ALL FUEL CONSUMPTION TO THE NEAREST MPG FOLLOWING EACH FUEL PURCHASE."
4021 PRINT
4022 PRINT "**AFTER FIRST ENTERING THE CAR DETAILS, IT IS ONLY NECESSARY TO INPUT THE DATE, SPEED
0,COST AND PRICE PER GALLON OR
LITRE AS PROMPTED"
4023 PRINT
4024 PRINT "ALTHOUGH THE RESULTS WILL IN ANY CASE GET PROGRESSIVELY MORE ACCURATE IT IS BETTER TO FILL THE TANK, OR NEARLY SO, AT EACH PURCHASE TO ACHIEVE THE MAXIMUM ACCURACY FROM THE START"
4030 FOR U=1 TO 200
4033 IF INKEY$="H" THEN LET U=28
0
4034 NEXT U
4035 CLS
4040 PRINT "INPUT CAR TYPE E.G."
"CAPRI"""
4050 INPUT C$
4060 PRINT
4070 PRINT "INPUT REGISTRATION NUMBER
E.G. "TLT 512 M"""
4080 INPUT R$
4090 PRINT
4100 PRINT "INPUT SPEEDOMETER READING OF INITIAL FUEL BOUGHT
E.G. 15509"
4110 INPUT M
4120 LET M1=M
4130 PRINT
4140 PRINT "INPUT DATE OF INITIAL PURCHASE E.G. 24.12.81"
4150 INPUT P$
4160 PRINT
4170 PRINT "INPUT MINIMUM EXPECTED MPG FOR GRAPH BASE E.G. 20"
4180 INPUT S1
4190 GOTO 15
8020 CLS
8030 PRINT AT 5,0;"PRESS R FOR NEXT CALCULATION"
8040 PRINT AT 7,0;"PRESS S TO SAVE"
8060 IF INKEY$="R" THEN GOTO 25
8070 IF INKEY$="S" THEN GOTO 900
0
8080 FOR U=1 TO 5
8095 NEXT U
8096 IF INKEY$<>"R" OR INKEY$<>"S" THEN GOTO 8020
9000 SAVE "CAR MPG"
9050 GOTO 25
9500 SAVE "CAR MPG"
9550 GOTO 5

```

TWO-STROKE ENGINE

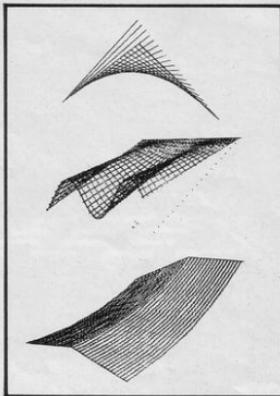
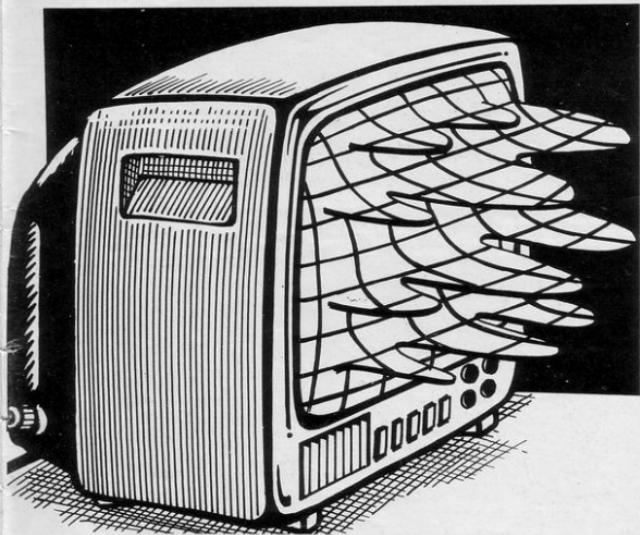
THIS EDUCATIONAL program, **Two-stroke Engine**, was designed for the 16K Spectrum by Tim Rose of Woolwich, London. For those interested in simple physics it describes, with working diagrams, the action of a two-stroke engine. It would be useful as a demonstration program for teaching, or for students struggling to reproduce diagrams.



```

10 LO SUB 249: BORDER 6: PAPER
11 INK 6: CLS
12 CIRCLE 125,39,24
13 PRINT AT 20,8;"Two Stroke"
14 "Engine in Tim Rose '82-1983"
15 PLOT 182,168: DRAW 0,-50: D
RAW -12,-15: DRAW 0,-50: DRAW 70
16 ,PI: DRAW 0,30: DRAW -9,5: DRAW
17 15,0: PLOT PEEK 23677,PEEK 236
7812
18 DRAW -15,0: DRAW 0,4: DRAW
19 ,0: PLOT PEEK 23677,PEEK 23678
+12: DRAW -15,0: DRAW 0,53: DRAW
-50,-6,2: PLOT 180,98: DRAW 0,-3
5: DRAW -1,0: DRAW 0,35
60 PRINT AT 0,14: INK 7: BRIGHT
T 1;""
70 FOR s=3+2*PI-P/6 TO 0 STEP
-P/6
80 FOR z=0 TO 1
90 LET b=126+30*COS s: LET c=3
+20*SIN s
100 PLOT OVER 1,b,c: DRAW OVER
111:26,h,45
116 LET d=c+45
120 OVER 1: PLOT 185,d: DRAW 44
9: DRAW 0,28: DRAW -32,18: DRAW
-13,-10: DRAW 0,-28: OVER 0
130 IF INT c=59 THEN GO SUB 821
140 IF INT c=56 AND b>126 THEN
PRINT AT 8,0;"Power" ;AT 1,
14;" " ;AT 2,13;" " ;AT 3,
13;" "
150 IF INT c=21 AND b>126 THEN
GO SUB 8230
160 IF INT c=39 AND b>126 THEN
PRINT AT 8,0;"Compression"
170 IF INT c=48 AND INT b>126 T
HEN GO SUB 8280
180 IF (INKEY$="c" OR INKEY$="C
") AND z=0 THEN COPY
190 IF (INKEY$="s" OR INKEY$="S
") AND z=0 THEN GO TO 190
200 NEXT z: NEXT s: GO TO 70
210 PRINT AT 8,0;"Ignition"
;AT 1,14: INK 2: BRIGHT 1;"bbbb
" ;AT 2,13;"bbbb": AT 2,13;"bb
" ;AT 3,13;"bbbbbb": IF z=0 THEN
FOR x=0 TO 10: BEEP 0,61,10: BE
EP 0,61,20: NEXT x
220 RETURN
230 PRINT AT 8,0;" " ;OVE
R 1: PLOT 134,122: DRAW 20,-20,P
L2/PLOT 155,102: DRAW 16,0: PL
OT 166,106: DRAW 5,-4: DRAW -5,-
14: PRINT AT 9,22;"Exhaust": RT 10
14;"Out"
240 PRINT AT 9,0;"Fuel forced"
;AT 10,5;"up": PLOT 96,48: DRAW 0
,55: DRAW 20,22: DRAW -5,0: POKE
23677,PEEK 23677+5: DRAW 0,-5:
OVER 0
250 IF z=0 THEN FOR x=1 TO 100:
IF INKEY$="c" OR INKEY$="C" THE
N COPY
260 IF z=0 THEN NEXT x
270 RETURN
280 OVER 1: PLOT 160,85: DRAW -
12,0: DRAW -28,-28: DRAW -4,5: PO
KE 23677,PEEK 23677+11: DRAW -6,
-5: PRINT AT 11,21;"Fuel sucked"
;AT 12,25;"in": OVER 0: GO TO 25
0
290 RESTORE 300: FOR x=0 TO 14:
READ y: PUKE USR "3"+x,y: NEXT
x: RETURN
300 DATA PIN 00001110,BIN 00001
110,BIN 00011111,BIN 00011111,32
,BIN 11001111,BIN 00000100,BIN 0
0001100,BIN 01011010,BIN 0101101
0,BIN 01001101,BIN 00000100,BIN 0
,0
310 SAVE "2 Stroke" LINE 1

```



Contour

```

5 REM ***2D*BY*TIM*LOSS
10 PLOT 127,0: DRAW 0,175: PLO
T 0,87: DRAW 255,0
20 DIM LC127>; DIM H(127)
30 LET R=43
35 LET D=-1
40 FOR T=1 TO 2
50 FOR L=1 TO 127
60 IF INKEY$="9" THEN PLOT G+
, R: GO TO 100
70 IF INKEY$="8" THEN LET A=A+
1: PLOT G+D,R: GO TO 100
75 IF INKEY$="5" THEN LET A=A-
1: PLOT G+D,R: GO TO 100
80 IF INKEY$="7" THEN LET A=A+
,.5: PLOT G+D,R: GO TO 100
90 IF INKEY$="6" THEN LET A=A-
,.5: PLOT G+D,R: GO TO 100
91 IF INKEY$="1" THEN GU TO 18
00
95 GO TO 60
100 IF T>1 THEN LET L(G)=R: GO
TO 115
110 LET H(G)=R
115 NEXT G
130 LET A=131: LET D=127: NEXT
T
140 OVER 1: PLOT 127,0: DRAW 0,
175: PLOT 0,87: DRAW 255,0: OVER
0
145 INPUT "<1> SOUTH TO NORTH "
r "<2> WEST TO EAST ?"
150
146 IF 0=1 THEN INPUT "RADIAN
?": D: GO TO 150
147 IF 0>2 THEN GO TO 200
148 GO TO 145
150 FOR R=0 TO 126 STEP 4
160 PLOT A,L(R+1)
170 DRAW 128,88+((H(R+1)-88)-L(
A+1)),D
180 NEXT A
190 INPUT "WEST TO EAST ASWELL
?": 0
191 IF 0$="Y" THEN GO TO 200
192 RUN
200 FOR t=0 TO 126
210 LET B=L(T+1): LET R=T
220 FOR G=1 TO 20
230 LET R=A+6.35: LET B=B+4.4
240 LET B=B+((H(T+1)-88)-L(T+1))
Y20
245 PLOT R,B
250 NEXT G
260 NEXT T
270 INPUT "SOUTH TO EAST ASWELL
?": 0
280 IF 0$="Y" THEN LET 0=1: GO
TO 146
290 RUN
300 LET B=43
310 LET R=1
315 LET D=1
320 LET L CINT D)=B
321 PLOT D,B
330 LET B=B< SIN R>
340 LET R=A+0.04: LET D=D+.5
345 IF D>127 THEN GO TO 1060
350 GO TO 1820
360 GO TO 130

```

TIMOTHY CLOSE of Shepperton, Middlesex wrote **Contour** to draw three-dimensional surfaces on the Spectrum. When RUN the faces will print a cross on the screen. Use keys five, six, seven, eight and nine to draw a contour line in the bottom left-hand square. Nine will draw a horizontal line; the other keys move the cursor from left to right at varying angles.

When the bottom left-hand square has been crossed, the line will move to the top right-hand square and continue. The computer will then ask "1 South to north 2 West to east?" Inputting 2 will produce 20 intermediate contours representing a gradual change from first to second contour.

Inputting 1 will produce the question Radians, requiring you to input the curvature on your south-north lines. Straight would be 0, maximum curvature around 2.5. No matter what option you select, you will be given the option of including the other.



**offers the most speed
under the Specification**

*Prestel and the Prestel symbol are trademarks of British Telecommunications.
*Subscribers are responsible for quarterly Micronet 800 and Prestel subscription charges.

Micronet 800. The spectacular service that gives micro-users access to a huge database of information, hundreds of software programs, and communication with other users.

Sinclair ZX Spectrum. The home computer that's out-shone all its rivals.

Bring the two together and it's a combination that opens up a breathtaking new world of microcomputing possibilities.

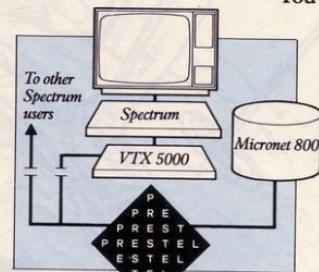
Suitable for either the 16K or 48K versions, the Prism VTX 5000 modem was designed specifically for the Spectrum and fits neatly under the micro.

Plug the other end into the outside world via your telephone and your system will give you more than you ever dreamed possible.

Micronet 800 is fun, friendly and inexpensive to run.

Choose from hundreds of free games, download and use them on your Spectrum whenever you like, play on-screen games (as easy and inexpensive as a local phone call), and compete in Big Prize games and quizzes. There's also a range of downloadable games you can buy for less than over-the-counter prices.

Learn through up-to-date education packages, and help run the household with simple business packages.



And if you need fast facts about the world of computers, Micronet 800 provides constantly up-dated product comparisons, reviews, prices, dealership and 'best-buy' information - 24-hours a day, 7-days a week.

You can access over 250,000 pages of Prestel[™] information covering news, travel, holidays and entertainment, together with an electronic booking service.

Keep in touch - you can send electronic mail to any other Micronet 800 or Prestel user.

The VTX 5000 provides a full Prestel screen with graphics, and an off-line message composition facility for speedy transmission when you go on-line.

You can use the Sinclair printer to print frames and messages, or save them on tape for future use.

All this - and even more as the service grows - retails at the low price of £99.95 inc VAT.

Plus, as a special offer to early users, we will provide you with a jack-socket installation (should you need one) completely free of charge.

So don't delay - send the coupon today.

micronet
800

Micronet 800.... spectacular add-on

Please send me a complete Micronet 800 information pack containing details of Micronet 800 and the VTX 5000, and including a Micronet subscriber's application form.

Please send me ____ (No.) VTX 5000 modem(s) at £74.95 each inc. VAT.

SP11/83

I enclose a cheque made payable to Telemap Ltd. for £_____.

I wish to pay by credit card: Visa, Access, Diners Club, American Express.

(Delete as applicable) Amount £_____

My credit card No. _____ Signed _____

Name _____ Address _____

Tel: _____

Micronet 800, Scriptor Court, 155 Farringdon Road, London EC1R 3AD. Tel: 01-278 3143.

One of the many faces on Prestel

SEVERAL SKIING programs have been included in *Sinclair Programs* previously but **Slalom** is faster than any of them and includes a variety of ski runs and difficulty levels. A course is displayed, including five gates. Reach the bottom as quickly as possible, bearing in mind that failing to go through a gate will incur a time penalty.

Move left with 5 and right with 8. Those keys allow you to travel downwards at any of seven angles and skill is needed to move in the proper direction.

Written for the 16K Spectrum by Neil Slater of High Wycombe, Buckinghamshire.

```

5 INK 0: PAPER 7: BORDER 7: C
LS
10 CLEAR 31999
20 FOR I=32000 TO 32020: READ
30 POKE I,1
30 NEXT I
40 DATA 0,221,33,0,125,33,0,08
,1,255,2,221,126,0,119,17,1,69,2
37,176,201
50 FOR I=32031 TO 32053
60 READ X: POKE I,X
70 NEXT I
80 DATA 1,33,31,125,102,46,0,1
7,0,0,229,213,205,181,3,209,225,
175,237,82,48,244,201
93 FOR I=1 TO 21: PRINT " (2
*1sp:193) "
95 PRINT AT 9,9;"(14*1sp)";AT
11,9;"(14*1sp)"
98 PRINT AT 10,10;"PRESS A KEY
"
100 FOR I=56 TO 63: POKE 32000,
I
110 RANDOMIZE USR 32001: RANDOM
120 USR 32032
115 IF INKEY()<>" " THEN GO TO 18
0
120 NEXT I
130 FOR I=63 TO 56 STEP -1: POK
E 32000,I
140 RANDOMIZE USR 32001: RANDOM
120 USR 32032
145 IF INKEY()<>" " THEN GO TO 18
0
150 NEXT I
160 GO TO 100
165 POKE 32031,1
190 INK 0: PAPER 0: BORDER 0: C
LS
200 INPUT "COURSE NUMBER:":R: R
RANDOMIZE R
210 INPUT "DIFFICULTY:":DF
215 IF DF<2 THEN GO TO 210
220 INPUT "CONTROLS ARE L-LEFT,
R-RIGHT PRESS ENTER.
": LINE A#
230 DIM FC$ FOR I=1 TO 5
240 LET FC1=INT(RND*236)+44: I
F I=1 THEN LET X=100: GO TO 260
250 LET X=FC1-1
260 IF ABS(FC1)-X>DF$ THEN G
O TO 240
270 NEXT I
280 DIM BC7: DIM BC7$ FOR I=1
TO 7: READ A(I),BC1: NEXT I
290 DATA -6,-1,-4,-1,-2,-2,0,-3
,-2,-2,-1,-6,-1
300 LET T=0: LET X=110: LET Y=1
75
310 LET D=4
320 FOR I=1 TO 5
330 PLOT FC1,175-I*30: DRAW 0,
0: DRAW -8,-2: DRAW 3,-1: PLOT F
C1*16,175-I*30: DRAW 0,8: DRAW
-3,-2: DRAW 3,-1
340 NEXT I
350 PLOT X,Y
360 PRINT AT 0,0;"TIME=0"

```



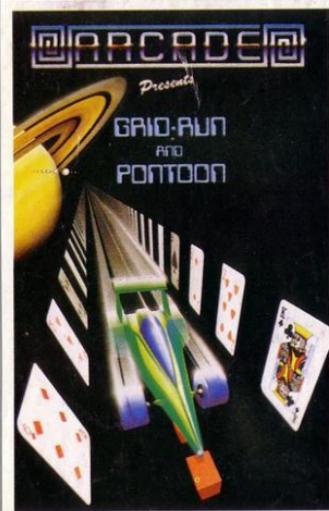
SLALOM

```

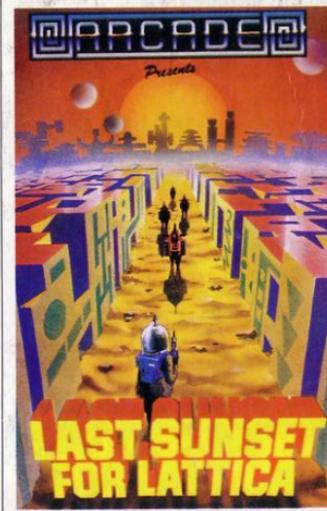
370 LET N=145: POKE 32000,56: R
RANDOMIZE USR 32001: BEEP .5,20
380 PAPER 7: BORDER 7
1000 LET D=0+I*INKEY()=8" AND DM7
->(INKEY()="5" AND D2)1
1010 IF X4D>>255 OR X+KD>1 T
HEN LET D=4
1020 IF Y+BD>N THEN GO SUB 15
90
1030 LET T=T+1: PRINT AT 0,6,T
1040 DRAW A(D),BD>: LET X=X+KD
9: LET Y=Y+BD>
1050 GO TO 1000
1050 LET N=N-30: IF N=-30 THEN G
O TO 2000
1055 LET Q=(175-N)/30-1
1050 IF N<0 THEN LET N=0
1520 IF X>=F(0) AND X<=F(0)+16 T
HEN POKE 32031,2: RANDOMIZE USR
32032: RETURN
1530 BEEP .2,-3: BEEP .3,-5: LET
T=T+30: RETURN
2000 FOR G=1 TO 20: FOR I=0 TO 5
6 STEP 0: POKE 32000,I: RANDOMIZ
E USR 32001: NEXT I: NEXT G
2010 PRINT AT 0,17;"TIME",T," U
NITS"
2020 INPUT "SAME COURSE ?": LIN
E A0: LET A=CHR$ CODE A0: IF A#
="Y" THEN RESTORE 200: PAPER 0:
BORDER 0: CLS : RANDOMIZE R: GO
TO 220
2030 POKE 32031,6: RANDOMIZE USR
32032: RUN

```

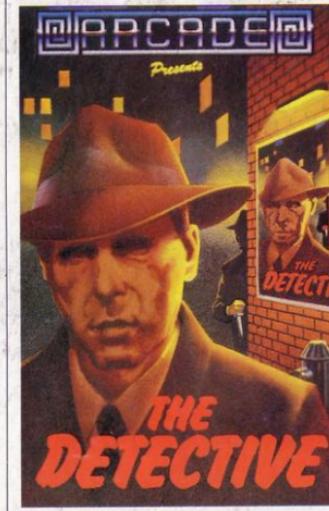
THE ARCADE COLLECTION



GRID RUN is a high resolution, fast machine code game using the spectrum sound and colour to the full. Set in a maze you must avoid oncoming android cars bent on your destruction. Bonus car even 10,000 points. 10 aman Free. 10 levels of increasing speed and difficulty. There is an extra button to get your breath back. PONTOON included on side B absolutely free. Pontoon has full graphical representations of all the cards including King, Queen, Jack, "Intelligent" play of aces, and full analysis of results at end of each game. REF. GRID.



LAST SUNSET FOR LATTICA (Original) is a true graphical adventure game in real time. Your aim is to defuse a bomb hidden somewhere in a highly complicated maze avoiding many well armed androids along the way. Extra lives are there for the taking, so are the keys to take you to the next level and all the while time is running out for the little Planet of Lattica. REF. SUN.



THE DETECTIVE (Original) You thought it was just another "Take the secrets from a Safe and Run" job but the mob thought differently. They will try everything to stop you this time, if madmen, lasers, bombs, dynamite, daggers, barrels, blaster bombs, crates, helicopters, jets and four-legged canines not enough, you will just have to Open the safe has its pitfalls too. Fast moving, m/c game with excellent graphics and sound. A very addictive game. REF. DET.



RAIDER OF THE CURSED MINE (Original) Greed drove you down into the old diamond mine, sheer determination and luck is the only way out again. Lifts help you, so do lamps, and diamonds can be worth a fortune but beware of the evils that lurk deep in the mine. The mine is filled with bats, spiders, snakes and other nasties who show no mercy and bats who steal things, add to this a time bonus and you have an exciting Arcade quality game. Reach level 32 and escape to the big outside world. REF. RAID.

All these games are available for the ZX Spectrum 48K for the incredible price of only **£5.50** including P&P VAT etc. Just complete the mail order form for prompt dispatch by return of post.

Arcade are committed to original game concepts so look out for new titles in the Arcade range. Trade enquiries welcome. Phone Orpington 35639 anytime or write to Arcade Software Ltd, Technology House, 32 Chislehurst Road, Orpington, Kent BR6 0DG.

TO: ALL MAIL ORDERS

Qty.	Item	Item Price £	Total £

DON'T FORGET YOU CAN ALWAYS ORDER ON THE TELEPHONE WITH YOUR CREDIT CARD. TRADE ENQUIRIES WELCOME.

*I enclose a cheque/postal order payable to ARCADE SOFTWARE LTD, for *Please charge to my Access/Barclaycard account no.

*Please delete/complete as applicable.
Signature _____
Name: Mr/Mrs/Miss _____
Address _____

LUNAR JETMAN - 48K ZX Spectrum

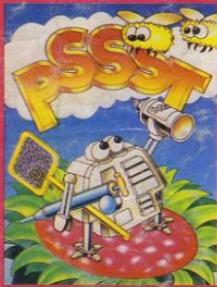
LUNAR JETMAN - For the 48K Sinclair ZX Spectrum

LUNAR JETMAN - The Ultimate Intergalactic G.A.S. (Graphic Arcade Simulation) Adventure Space Battle

LUNAR JETMAN - Arcade standard, 100% machine code, incredible sound effects, amazing smooth high resolution graphics, the totally new addictive concept and all those extra features you expect from the **ULTIMATE** games people.

Design - The **ULTIMATE PLAY THE GAME** design team.

PSSST - 19/48K ZX Spectrum



JET PAC - 16/48K ZX Spectrum or 8K Expanded VIC 20

These games should be available from W.H. SMITHS, BOOTS, JOHN MENZIES, LASKYS, SPECTRUM CENTRES, other large department stores and all good major software retailers. Alternatively, send the coupon to **ULTIMATE PLAY THE GAME** for immediate dispatch by return, subject to availability.

£5.50 each including VAT, first class postage and packing within UK.

COOKIE - 16/48K ZX Spectrum

COOKIE - The ultimate



TRANZ AM



TRANZ AM - 16/48K ZX Spectrum

ATIC ATAC - For the 48K Sinclair ZX Spectrum

ATIC ATAC - The super spooky 3D horror G.A.S. (Graphic Arcade Simulation) Adventure Game.

ATIC ATAC - Arcade standard, 100% machine code, incredible sound effects, amazing smooth high resolution graphics, the totally new addictive concept and all those extra features you expect from the **ULTIMATE** games people.

Design - The **ULTIMATE PLAY THE GAME** design team.

ATIC ATAC - 48K ZX Spectrum

Dealer enquiries welcome. Phone (0530) 411485

Post this coupon to:

ULTIMATE PLAY THE GAME, The Green, Ashby de la Zouch, Leicestershire, LE6 5JU

Please rush me the following:

LUNAR JETMAN

COOKIE

JET PAC (8K Expanded VIC 20)

TRANZ AM

ATIC ATAC

ULTIMATE PLAY THE GAME

ULTIMATE

ULTIMATE